Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Vitamin B_{12}-Intrinsic Factor Therapy
Rehabilitation in Traumatic Conditions
G-I Manifestations of Urogenital Origin
Clinico-Pathological Conferences
Dermatomycoses (Refresher)
Ambulatory (Office) Surgery
Editorials
Clinical Notes
Therapeutics
Public Relations
Contemporary Progress
Medical Book News
Letters to the Editor

Modern Medicinals
Modern Therapeutics
Contents Pages 5a, 7a

VOL. 81 JULY 1953 NO. 7

DEPARTMENT OF HEMATOLOGY

Clinical Report

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Contains a completely new intrinsic factor preparation developed by The Armour Laboratories which is 40 times more powerful than previously used Armour intrinsic factor extracts.

Can be given with complete confidence in conditions previously considered exclusive indications for injectable vitamin B_{12} including pernicious anemia in relapse.

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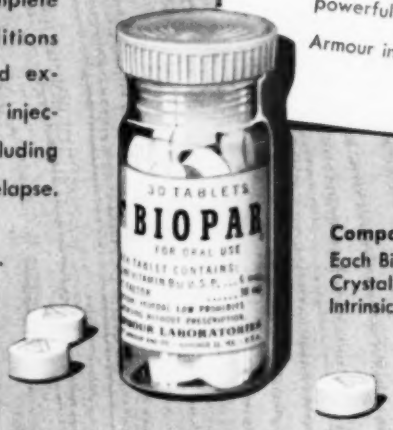

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Each Biopar® tablet contains:
Crystalline Vitamin B_{12} U.S.P.. 6 mcg.
Intrinsic Factor.....30 mg.

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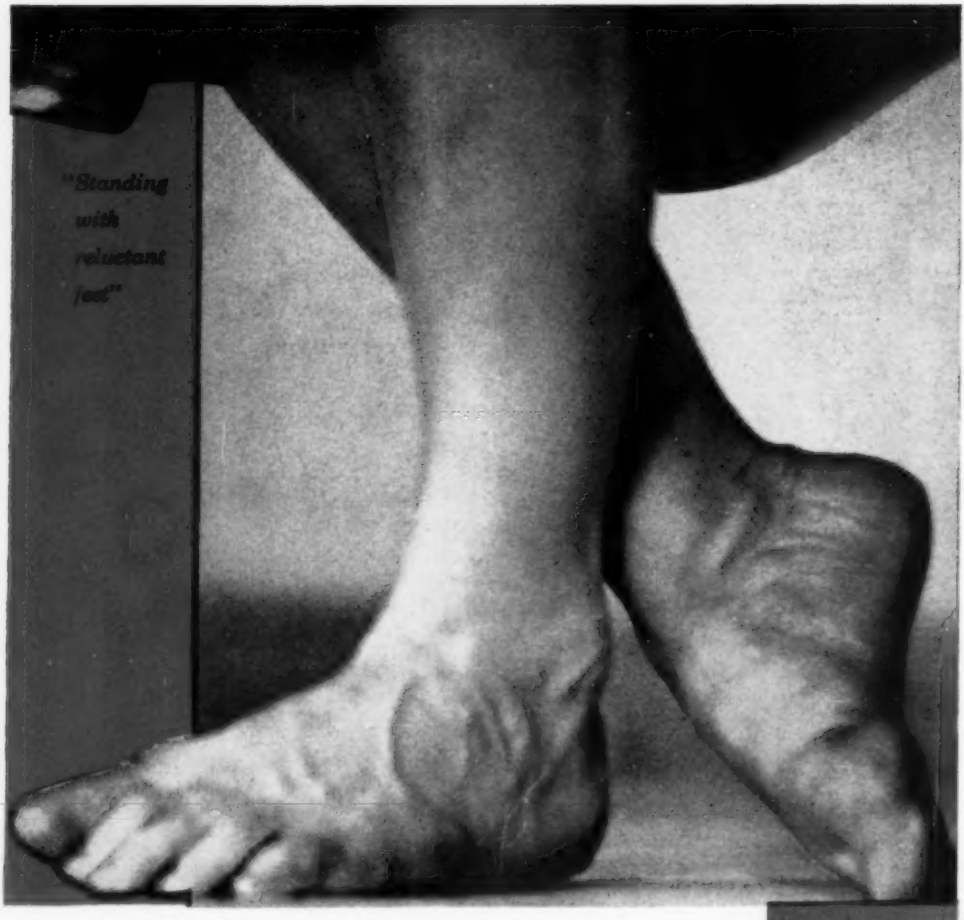

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does not cause "overtreatment dermatitis".

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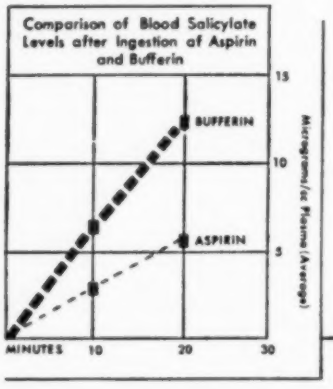

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In a series of 238 cases, 22 had a history of gastric distress due to aspirin but only one reported any distress after taking 2 Bufferin tablets (equivalent to 10 grains of aspirin).[1]

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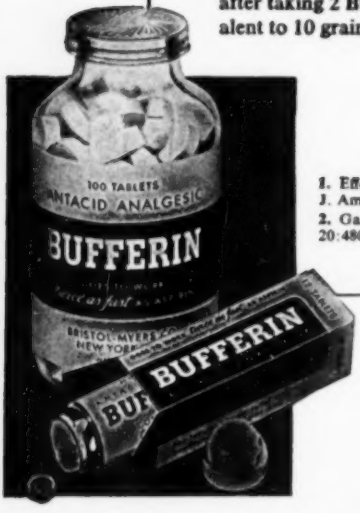

1. Effect of Buffering Agents on Absorption of Acetylsalicylic Acid. J. Am. Pharm. Assoc., Sc. Ed. 39:21. Jan. 1950
2. Gastric Tolerance for Aspirin and Buffered Aspirin. Ind. Med. 20:480. Oct. 1951

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And 3 live births from 3 women with histories of 3 abortions—100%—concluding that **des** is the "drug of choice" in these complications of pregnancy.

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REFERENCES:

1. Gitman, L., and Kaplowitz A.: Use of diethylstilbestrol in complications of pregnancy. New York State J. Med. 50:2823: 1950.
2. Ross, J.S.: Use of diethylstilbestrol in the treatment of threatened abortion. N. Nat. M.A. 43:20, 1951.
3. Karnaky, K.J.: Am. J. Obsts. & Gynec. 58,622. 1949.

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Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Incorporating the Long Island Medical Journal and Western Medical Times

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Well suited to patients with relatively mild, labile hypertension. A valuable adjunct to other agents in advanced hypertension.

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†Busis, S. N., and Friedman, L. L.: Antibiotics & Chemotherapy 3:299 (March) 1953.

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dosage

One Kapseal daily is usually used as a supplement to the regular dietary, though dosage may be increased in febrile illnesses, preoperatively or postoperatively, or whenever the possibility of vitamin-mineral deficiency is increased.

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Vitamin A	5000 units	Rutin	25 mg.
Vitamin B_1 (thiamine hydrochloride)	5 mg.	Ferrous sulfate	30 mg.
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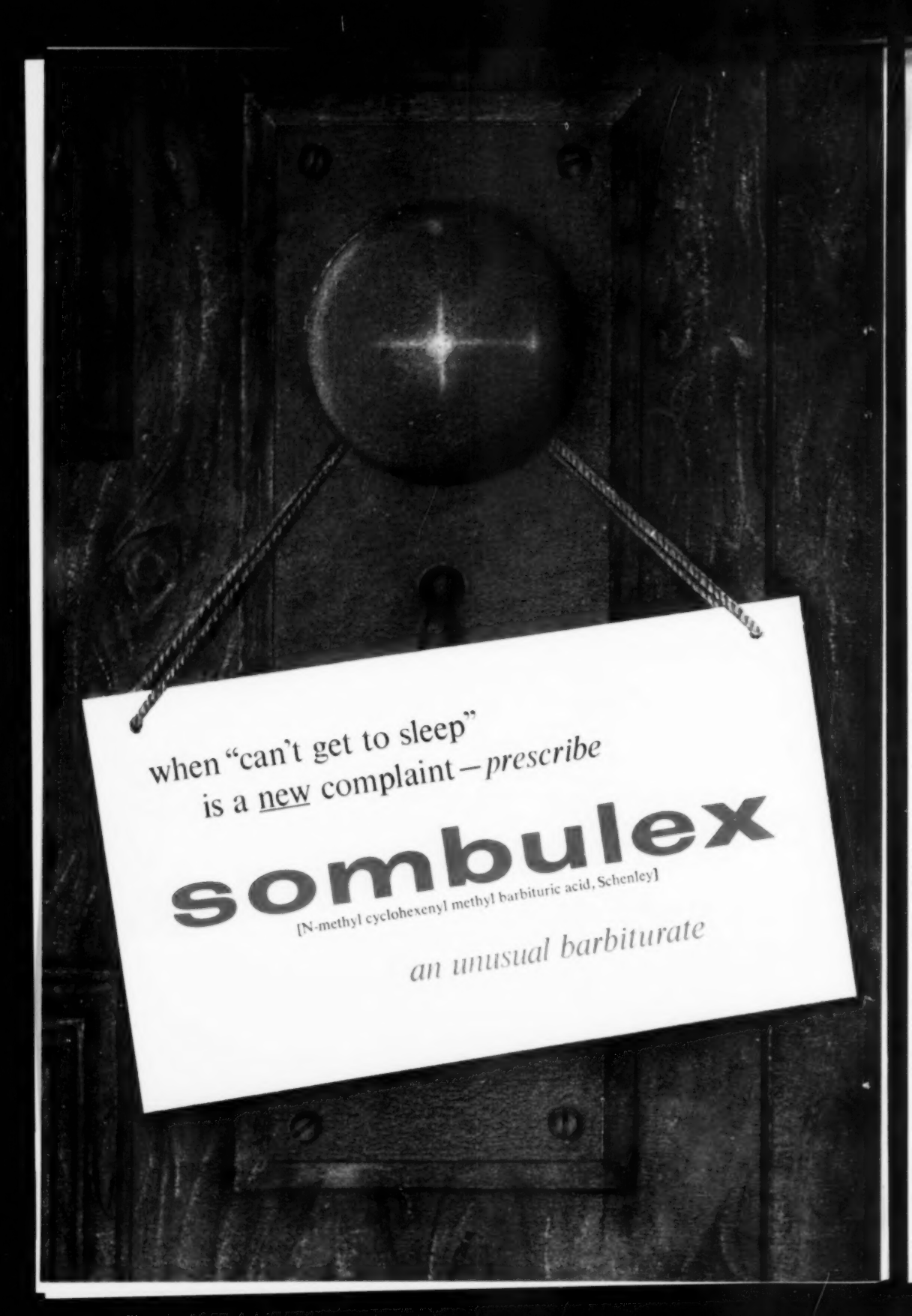
when "can't get to sleep"
is a new complaint—prescribe
sombulex
[N-methyl cyclohexenyl methyl barbituric acid, Schenley]
an unusual barbiturate

sombulex* *is an unusual barbiturate*

because it works within 15 to 30 minutes and leaves the bloodstream within 3 to 4 hours, thus avoiding the danger of hangover for patients who do not need heavy barbiturate action.

When the stresses and strains begin to tell

...when the mind won't let the body rest, and patients complain for the first time..."Doctor, I can't get to sleep"... SOMBULEX is the prescription of choice for these first-time barbiturate patients. For them, 1 or 2 tablets taken with water or a warm beverage usually suffice to induce a night's refreshing sleep without hangover. Patients will not readily identify SOMBULEX as a barbiturate.

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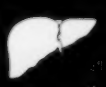
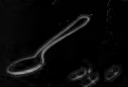
condition	 incidence of liver dysfunction	 incidence of blood lipid abnormalities	 suggested therapy
obesity	frequent + + +	frequent + +	Methischol plus balanced low calorie diet.
diabetes	frequent + + + +	frequent + + +	Methischol as adjunct to diet. Insulin as necessary.
atherosclerosis	frequent + + +	frequent + + +	Methischol and high protein, low fat diet.
coronary disease	frequent + + +	frequent + + +	Methischol as adjunct to high protein, low fat diet and specific therapy.
alcoholism	frequent + +	frequent + +	Methischol plus high protein diet.

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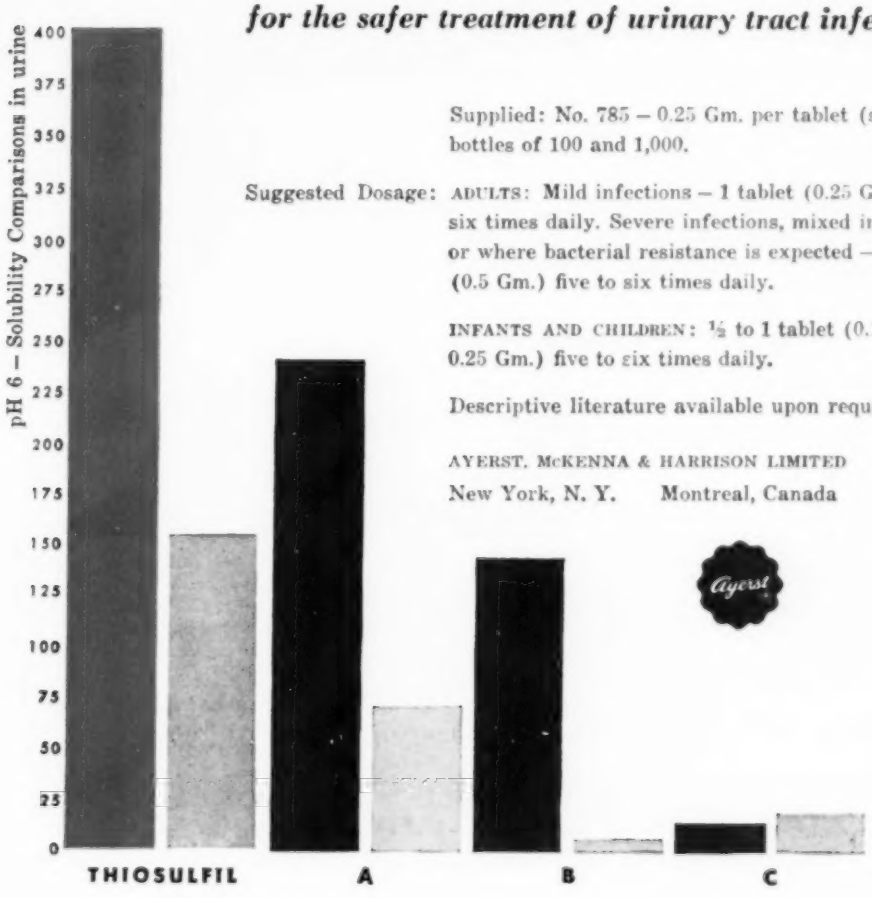
brand of sulfamethylthiadiazole

the more soluble sulfonamide

for the safer treatment of urinary tract infections



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control appetite between meals

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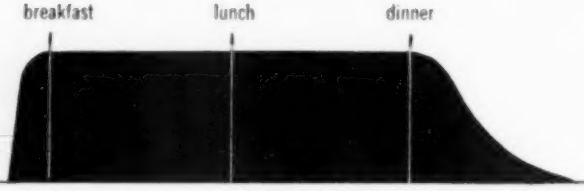

tablets t.i.d. usually control appetite only at mealtime

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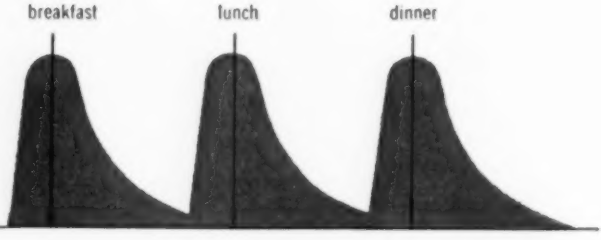

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and Dizziness

at last...

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obtained from *Rauwolfia serpentina*

Rauwiloid

for the long-time management of mild or moderate hypertension, with

CONTROL OF ASSOCIATED SYMPTOMS

Rauwiloid represents an alkaloidal fraction obtained from the tropical plant *Rauwolfia serpentina;* it is generically designated the *alseroxylon fraction.*

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Bibliography:

Wilkins, R. W. and Judson, W. E.: The Use of Rauwolfia Serpentina in Hypertensive Patients, New England J. Med. 248:48 (Jan. 8) 1953.

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THE ADVANTAGES CARRY OVER IN THE TREATMENT OF SEVERE HYPERTENSION WITH

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- **The characteristic effect of Rauwiloid is retained when a more potent hypotensive agent such as Veriloid is concurrently given. Clinical evidence suggests that synergistic potentiation results.**
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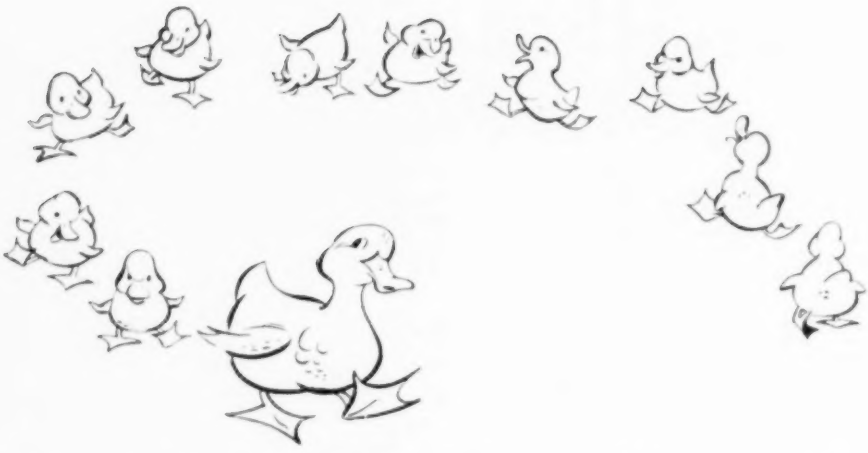

"...the healthier the mother, ..."

Of the quarter of a million babies born prematurely each year, only 9 out of 10 have a chance to survive. With adequate maternal nutrition, however, more babies are carried to term.

> ***"In general, the healthier the mother, and the more complete her diet in required minerals, vitamins and proteins, the less likely she is to have a premature infant."***[1]

OBRON provides an adequate supply of Vitamins, Minerals and Trace Elements for healthier mothers during pregnancy and lactation.

for the OB patient . . . . all in one capsule

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Dicalcium Phos. Anhydrous*	768 mg.
Ferrous Sulfate U.S.P.	64.8 mg.
Vitamin A	5,000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Hydrochloride	2 mg.
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Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	37.5 mg.
Niacinamide	20.0 mg.
Calcium Pantothenate	3.0 mg.
Cobalt	0.033 mg.
Copper	0.33 mg.
Iodine	0.05 mg.
Manganese	0.33 mg.
Magnesium	1.0 mg.
Molybdenum	0.07 mg.
Potassium	1.7 mg.
Zinc	0.4 mg.

*Equivalent to 15 gr. Dicalcium Phosphate Dihydrate

1 Potter, E.: quoted in N.Y. State J.M., 53:994, April 15, 1953

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for longer,
more lasting
relief of itch...

EURAX Cream

- Is a totally new synthetic agent unrelated to the antihistamines or -caine compounds.
- Relieves itch more rapidly in more patients for a longer period of time (up to 12 hours from one application).
- Retains its effectiveness on continued use.
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EURAX® Cream (brand of crotamiton cream) contains 10% N-ethyl-o-crotonotoluide in a vanishing cream base. Tubes of 20 Gm. and 60 Gm., and jars of 1 lb.

Literature and reprints sent on request.

EURAX ***in scabies:*** Only one or two applications produce cure rates ranging up to 100 per cent.

(1) Couperus, M.: J. Invest. Dermat. *13*:35, 1949. (2) Peck, S. M., and Michelfelder, T. J.: New York State J. Med. *50*:1934, 1950. (3) Pierce, H. E., Jr.: J. Nat. M. A. *43*:107, 1951. (4) Hand, E. A.: J. Michigan M. Soc. *49*:1286, 1950. (5) Soifer, A.: Quart. Rev. Int. Med. & Dermat. *8*:1, 1951. (6) Tronstein, A. J.: Ohio State M. J. *45*:889, 1949. (7) Johnson, S. M., and Bringe, J. W.: Arch. Dermat. & Syph. *63*:708, 1951. (8) Hitch, J. M.: North Carolina M. J. *12*:548, 1951.

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ENTERIC DETOXICANT OF CHOICE

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Resion

POLYAMINE METHYLENE RESIN AND SYNTHETIC SILICATES

"...totally insoluble and nontoxic"[2]

RESION has been called "the treatment of choice for diarrheas of the type the physician is called upon to treat in his everyday practice,"[1] and because its honey and syrup vehicle is so delicious, RESION is willingly accepted by patients of all ages, including infants.

RESION, combining polyamine methylene resin, 10%, sodium aluminum silicate, synthetic, 10% and magnesium aluminum silicate, synthetic, 1.25%, adsorbs an extremely wide range of enteric toxins, yet is "...absolutely nontoxic."[3]

Particularly valuable in the treatment of infantile diarrhea, RESION has also proved markedly effective in food poisoning, gastrointestinal infections, and nausea and vomiting of pregnancy.

DOSAGE FOR ADULTS and CHILDREN: 1 tablespoonful hourly for 4 doses; then 1 tablespoonful every 3 hours. For infants, same schedule, teaspoonful doses. Nausea and vomiting of pregnancy, 1 or 2 teaspoonfuls on arising, between meals and at bedtime. RESION is supplied in wide-mouthed bottles of 4 and 12 fluid-ounces.

1. *Rev. Gastroenterol.* 19:660, 1952
2. *Exper. Med. & Surg.* 9:90, 1951
3. *J. Philippine M. A.* 26:155, 1950

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More Than Half A Century Of Service To The Medical Profession

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...“sense of well-being”...
In addition to relief of menopausal symptoms, “a feeling of well-being or tonic effect” was frequently reported by patients on “Premarin” therapy.*
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*Harding, F. E.: West. J. Surg. 52:31 (Jan.) 1944.
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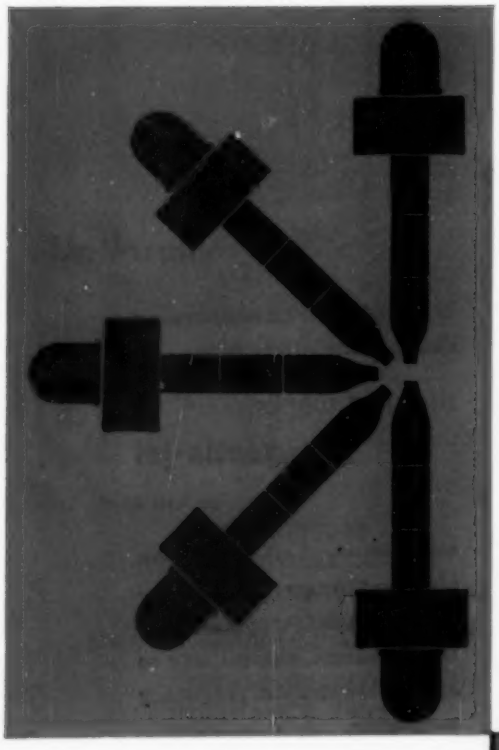

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Each 10 cc. bottle contains 1.0 gram of pure, well-tolerated Terramycin, often sufficient as a *total* dose for the treatment of common infections of moderate severity in infants and small children. Each cc. supplies 100 mg. of Terramycin in raspberry-flavored, nonalcoholic vehicle. With specially calibrated dropper. May be diluted as required.

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nothing works like **gentia·jel**

only *gentia-jel* offers gentian violet in the new plastic single-dose disposable applicator for the daintiest, easiest way to apply this specific in pregnancy moniliasis.

gentia-jel offers rapid, dramatic relief of symptoms...93% clinical cure and improvement rate.

only *gentia-jel* offers gentian violet therapy for safe daily use by the patient throughout entire pregnancy...without messiness and with minimal staining.

samples *of gentia-jel... write*

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NASAL DECONGESTANT

Uniformly *Safe!* FOR

INFANTS • CHILDREN
ADULTS AND AGED

DOES **NOT** CONTAIN ANY ANTIBIOTIC

Does not affect

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CARDIAC—DIABETIC
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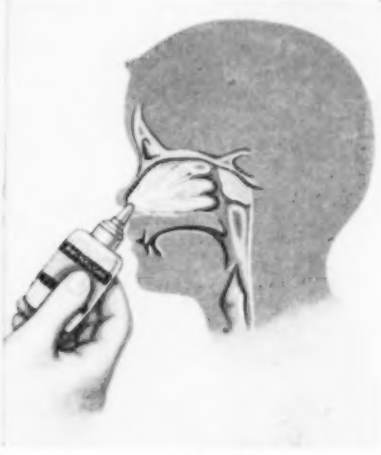
COMPLETELY FREE OF SIDE-EFFECTS... no cumulative action...no overdosage problem...non-toxic.



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NOW Modified Formula assures
PLEASANT, PALATABLE TASTE!

FORMULA: Desoxyephedrine Saccharinate 0.50% w/v in an isotonic aqueous solution with 0.02% Laurylammonium saccharin. Flavored. pH 6.4.

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Reference to RHINALGAN:

1. Van Alyea, O. E., and Donnelly, W. A.: E.E.N.&T. Monthly, 31, Nov. 1952.
2. Fox, S. L.: AMA Arch. Otolaryn., 53, 607-609, 1951.
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6. Browd, Victor L.: Rehabilitation of Hearing, 1950.
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ANTI-GRAM-POSITIVE

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INDICATIONS

infected wounds resulting from trauma or surgery

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abscesses and ulcers in any accessible location

furuncles

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eye infections such as:

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superimposed on any dermatological condition

AVAILABLE IN
tubes of
½ oz.
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⅛ oz. ophthalmic

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In lipotropic therapy, LIPOTAINE, a synergistic combination of betaine, choline, liver, and B_{12} in a pleasant tasting liquid, provides three important advantages

1. Permits massive therapeutic dosage
2. Provides low cost maintenance dosage
*3. Is more effective**

EACH TABLESPOONFUL CONTAINS:

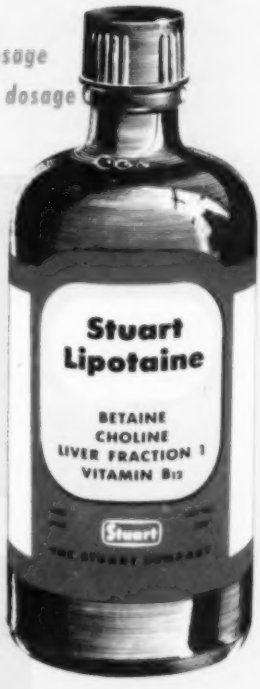
Betaine	(3000 mg.) 3 Gm.
Choline	210 mg.
Liver Fraction 1 N.F.	210 mg.
Vitamin B_{12} (USP Crystalline)	12 mcg.

DOSAGE

Therapeutic – 1 tablespoonful 1 to 3 times daily supplies 3 to 9 grams of lipotropic material.

Maintenance – 1 teaspoonful 1 to 3 times daily supplies 1 to 3 grams of lipotropic material.

Dosage to be taken with or after meals.



Also available in capsules

EACH CAPSULE CONTAINS:

Betaine	333 mg.
Choline	35 mg.
Desiccated Liver N.F.	35 mg.
Vitamin B_{12} (USP Crystalline)	2 mcg.

DOSAGE

Minimum Therapeutic – 3 capsules t.i.d. supplies 3 grams lipotropic material.

Maintenance – 1 to 3 capsules t.i.d. supplies 1 to 3 grams of lipotropic material.

Dosage to be taken with or after meals.

Stuart

THE STUART COMPANY
Pasadena 1, California

SUPPLIED IN PINTS OR BOTTLES OF 100 CAPSULES • AVAILABLE AT ALL PHARMACIES

*Morrison, Lester M., Am. Jour. Digestive Diseases, 19:12, Dec. (1952)

This is the product for obesity control which provides all 5 important factors in one small capsule

1. 5 mg. Dextro-Amphetamine Sulphate to inhibit appetite
2. ¼ gr. Phenobarbital to offset nervous stimulation
3. 200 mg. Methylcellulose to provide needed bulk
4. 9 Vitamins* } to provide protective amounts of important nutrients
5. 8 Minerals*

Low in cost to patients
(approximately 4¢ per capsule)

Bottles of 100 capsules
Available at all pharmacies

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Stuart

*Vitamins: A, 1700 USP units; D, 170 USP units; C, 25 mg.; B_1, 1 mg.; B_2, 1 mg.; Niacin Amide, 10 mg.; B_6, 0.15 mg.; B_{12}, 1 mcg.; Calcium Pantothenate, 1.5 mg. Minerals: Calcium, 40 mg.; Phosphorus, 30 mg.; Iron, 3 mg.; Copper, 0.25 mg.; Iodine, 0.05 mg.; Cobalt, 0.167 mg.; Manganese, 0.33 mg.; Zinc, 0.1 mg.

Knox Gelatine proven effective in the treatment of Refractory Anemias

Recent investigation shows[1] hemoglobin concentration and red blood cell count increased in every case, with high statistical significance, in refractory anemia patients plateaued to iron and getting a good diet.

Gelatine is a good hematopoietic protein because it contains 70 per cent of blood-building amino acids, according to criteria of Whipple and Robscheit-Robbins.[2]

Gelatine contains 25 per cent of glycine, an amino acid used in the synthesis both of the hemin[3] and the globin[4] portion of hemoglobin, and is utilized directly for these purposes.[5]

AVAILABLE AT GROCERY STORES IN 4-ENVELOPE FAMILY SIZE AND 32-ENVELOPE ECONOMY SIZE PACKAGES.

An envelope of Knox Gelatine taken in water, or a favorite fruit juice, milk, or other beverage, two to four times a day according to need, will furnish an abundance of hemin and globin building amino acids and lead to better utilization of iron. Large doses are necessary by the law of mass action, in order that the amino acids will be used directly, before deamination or synthesis into other body proteins.

Knox Gelatine U.S.P. • All Protein • No Sugar

1. Reich, C., and Mulinos, M. G.: Treatment of Refractory Nutritional Anemia with Gelatine. Bull. N. Y. Med. Coll. March 1953.

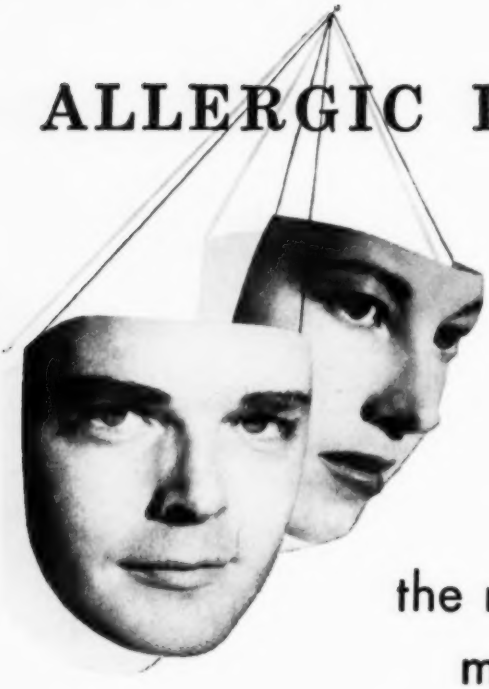
2. Whipple, G.H., and Robscheit-Robbins, F.S.: Amino Acids and Hemoglobin Production in Anemia. J. Exper. Med. 71:569, 1940.

3. Shemin, D., and Rittenberg, D.: Utilization of Glycine for the Synthesis of the Porphyrin. J. Biol. Chem. 159:567, 1945; The Biological Utilization of Glycine for the Synthesis of the Protoporphyrin of Hemoglobin. J. Biol. Chem. 166:621, 1946.

4. Grinstein, M., Kamen, M., and Moore, C.V.: The Utilization of Glycine in the Biosynthesis of Hemoglobin. J. Biol. Chem. 179:359, 1949.

5. Graff, J., and Hoverman, H.D.: On the Metabolism of Beta-Alanine. J. Biol. Chem. 186:369, 1950.

ALLERGIC PARENTS?



the new baby may need Mull-Soy®

The newborn child of allergic parents is potentially more allergic to the first foods that pass the gastrointestinal barrier than the average baby.

In such a case, it is possible to introduce a new basic principle into infant feeding — and that is to feed the potentially allergic newborn in a manner which improves immunological status.

Glaser and Johnstone* report "It has been shown that a preparation of soy bean milk (Mull-Soy) may be used successfully in over 85 per cent of cases to feed infants from birth, and that these infants may later be changed over to cow's milk formulae without difficulty except in those cases where there is probably a persistent congenital sensitivity to cow's milk."

If your allergic parents are "expecting"... recommend a Mull-Soy formula from birth to improve the baby's immunological status.

EASY TO PRESCRIBE — TO TAKE — TO DIGEST

A liquid, homogenized, vacuum-packed food for all patients allergic to milk.

*Glaser, J., and Johnstone, D. E.: Soy Bean Milk as a Substitute for Mammalian Milk in Early Infancy, Ann. Allergy 10:433 (July-Aug.) 1952.

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For insomnia... *you can prescribe with safety*

DORMISON

***non-barbiturate* hypnotic**

for SAFE, SOUND SLEEP

without drug hangover

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Disp. LX

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The extraordinarily wide margin of safety of DORMISON permits patients who awaken in the early morning and desire more sleep to repeat the dose. DORMISON is rapidly metabolized (one to two hours) so that there is no prolonged suppressive action. Patients awaken rested and refreshed as from normal slumber. DORMISON has no cumulative effect, no toxic effects on prolonged use. There is no evidence to date that DORMISON has habit-forming or addiction properties.

DOSAGE: Two 250 mg. capsules are recommended, although many patients respond to one.

DORMISON* (methylparafynol-Schering), capsules of 250 mg., bottles of 100.

*T.M.

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DORMISON

SCHERING

LETTERS TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when requested.

Salicylate Therapy

"I read your refresher reprints with much interest and I was particularly interested in the very useful refresher on Acute Rheumatism. May I add a thought on the very important aspect of salicylate therapy?

"In advising the use of salicylates, the author states that 'Gastric irritation can be prevented by giving equal amounts of potassium or sodium bicarbonate.' Then he says, 'When very large doses of salicylates are used, the addition of sodium or potassium bicarbonate is worthwhile to decrease gastric irritation and toxicity. The bicarbonate doses, however, lower the plasma level of salicylates. The salicylates should be used until all evidence of activity has subsided.'

"The bicarbonate dilemma has plagued all of us; the way out of it is to use a buffer like aluminum glycinate instead of the bicarbonates. The aluminum glycinate protects the stomach against gastric irritation, in fact it is a drug used very successfully to cure ulcers. It accelerates the absorption of the salicylates from two to four times, and it definitely does not increase salicylate excretion like the bicarbonates do.

"The combination of aspirin plus aluminum glycinate is conveniently available in

—Concluded on page 50a

"But doctor,

I have to cook for my family",

complains the obese patient who is having a difficult time with her reducing diet.

AMPLUS reinforces her will power with dextro-Amphetamine Sulfate and her diet with essential Vitamins and Minerals.

AM PLUS

EACH CAPSULE CONTAINS:

DEXTRO-AMPHETAMINE SULFATE	5 mg	POTASSIUM	1.7 mg
CALCIUM	242 mg	ZINC	0.4 mg
COBALT	0.1 mg	VITAMIN A	5000 U.S.P. Units
COPPER	1 mg	VITAMIN D	400 U.S.P. Units
IODINE	0.15 mg	THIAMINE HYDROCHLORIDE	2 mg
IRON	3.33 mg	RIBOFLAVIN	2 mg
MANGANESE	0.33 mg	PYRIDOXINE HYDROCHLORIDE	0.5 mg
MOLYBDENUM	0.2 mg	NIACINAMIDE	20 mg
MAGNESIUM	2 mg	ASCORBIC ACID	37.5 mg
PHOSPHORUS	187 mg	CALCIUM PANTOTHENATE	3 mg

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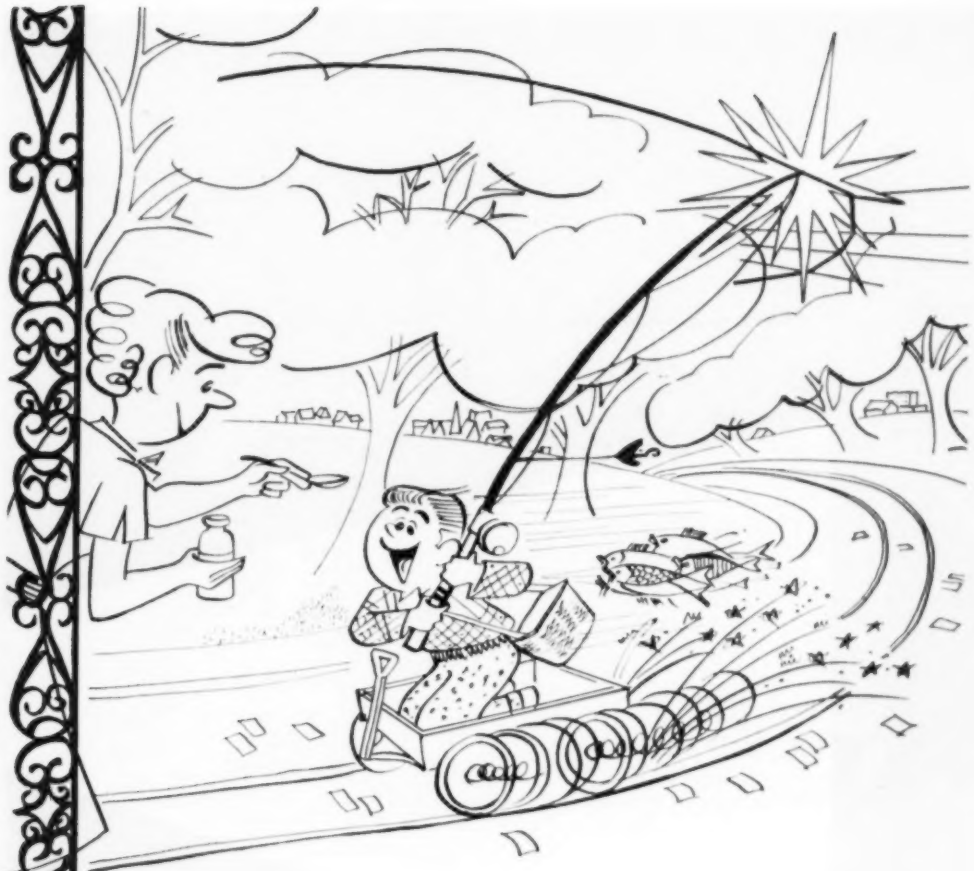
he's heard the call for Vi-Daylin®

(Homogenized Mixture of Vitamins A, D, B_1, B_2, B_{12}, C, and Nicotinamide, Abbott)

He knows his fish. They belong in butter—*not* in vitamins. Synthetic vitamin A is just part of VI-DAYLIN'S special appeal. For one thing, VI-DAYLIN *looks* like a treat. Little cynics are promptly disarmed by the clear, yellow-candy shine of this elegant spoonful. Taste? All lemon and honey-like sweetness.

Compare the taste. *Compare the formula.* You'll find seven-vitamin potency for once-a-day serving. Via the spoon—or mixed in soft foods—VI-DAYLIN is good news for youngsters *and* their mothers.

Abbott



Each 5-cc. teaspoonful of VI-DAYLIN contains:

Vitamin A	3000 U.S.P. units
Vitamin D	800 U.S.P. units
Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12} Activity (by microbiological assay)	3 mcg.
Nicotinamide	10 mg.

Office Management of Leukorrhea with Floraquin®

LEUKORRHEA is commonly caused by vaginitis due to trichomoniasis, moniliasis and senile atrophy. A wet smear examination will establish the cause.

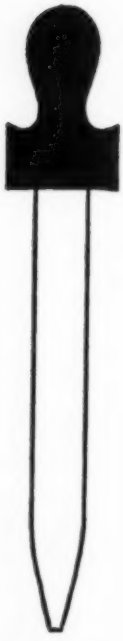
A recommended regimen, especially for *Trichomonas vaginalis* vaginitis, is insufflation with Floraquin powder in the office, accompanied by home treatment with douches of white vinegar solution (1½ ounces per quart of warm water) and insertion of two Floraquin vaginal tablets high into the vagina morning and night. During menstruation treatment is intensified because the pH of the menstrual flow encourages the growth of pathogenic flora. During this period the tablets are used three to five times daily.

If reexamination after three menstrual periods does not show trichomonads on the wet smear, the patient continues to insert Floraquin vaginal tablets only during menstruation[1,2] for several months to prevent reinfection.

Floraquin is supplied in powder and vaginal tablet dosage forms.

SEARLE *Research in the Service of Medicine*

1. Upton, J. R.: Symposium: Certain Aspects of Office Treatment in Obstetrics and Gynecology: Trichomonas Vaginalis Vaginitis, West. J. Surg. *60*:222 (May) 1952.
2. Blinick G., and Kaufman, S. A.: The Office Management of Leukorrhea, Am. J. Surg. *85*:27 (Jan.) 1953.



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a new approach to an old problem

Because fungi and gram-negative bacilli are equally suspect as causative agents, and specific diagnosis is often impractical, common external otitis presents a troublesome clinical problem.

Now, a potent antibiotic—with specific effects against the major gram-negative organisms—*and* an effective antimycotic—which is antihistaminic and locally anesthetic as well—have been successfully combined for aural instillation.

For prompt symptomatic relief in external otitis, and rapid resolution of the infectious process, prescribe

Dihydrostreptomycin OTIC with BRISTAMIN

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Bristol
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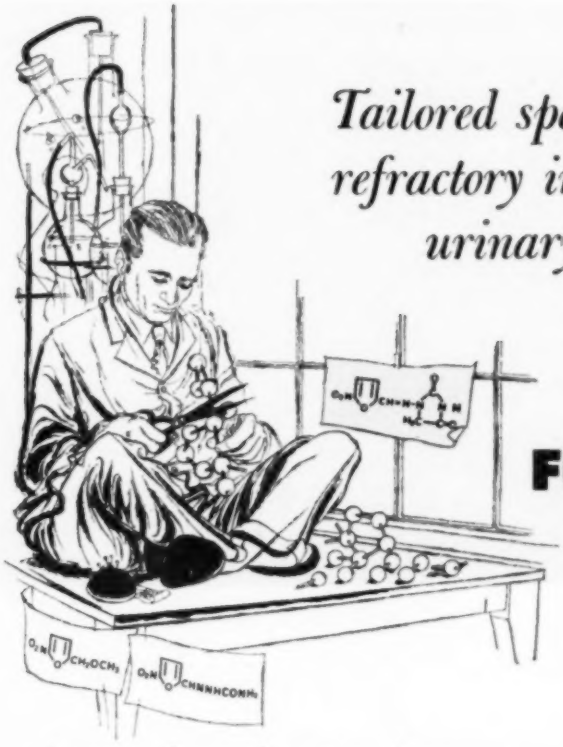
antibacterial antimycotic ear drops in ½ oz. dropper bottles



Tailored specifically for refractory infections of the urinary tract:

pyelonephritis
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A new chemotherapeutic agent with definite advantages:

- clinical effectiveness against most of the bacteria of urinary tract infections, *including many strains of Proteus, Aerobacter and Pseudomonas species*
- low blood level–bactericidal urinary concentration
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- low incidence of nausea;
  no proctitis or pruritus–
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- *tailored specifically for urologic use*

Literature on request

Available on prescription as tablets of 50 mg. & 100 mg.

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NORWICH, NEW YORK

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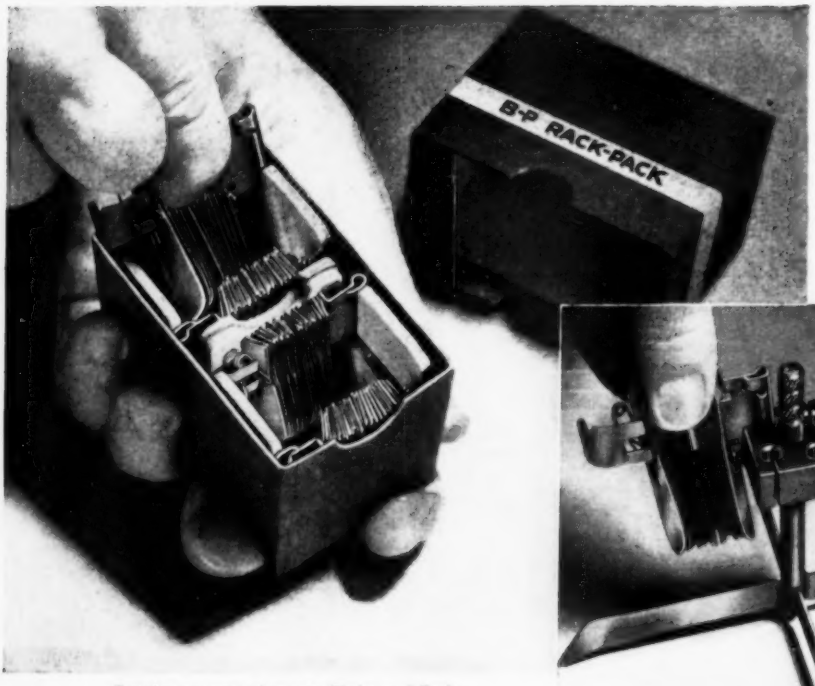
A unique class of antimicrobials



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is convincing proof! Just as you can depend upon RIB-BACK Blades to give you maximum cutting efficiency—you can rely on the RACK-PACK package to really save TIME and LABOR for your O.R. Personnel.

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The RACK-PACK fully protects the perfect cutting edges from damage in shipping, storing and pre-operative handling. V.P.I. rust inhibiting liner prevents corrosion. Blades already on RACK . . . ready for sterilization "*in a matter of seconds.*" AND —it costs the same as conventionally packaged Blades.

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Fellows Chloral Hydrate

CAPSULES

NON-BARBITURATE
NON-CUMULATIVE
TASTELESS
ODORLESS

3¾ gr.
Daytime sedation—
without hangover

7½ gr.
Restful sleep—*without hangover*

℞ – specify *Fellows* for the *original*, stable, hermetically sealed soft gelatin capsules Chloral Hydrate.

Available – 3¾ gr. (0.25 Gm.), bottles of 24's and 100's
7½ gr. (0.5 Gm.), bottles of 50's

Samples and literature on request

pharmaceuticals since 1866

38 Christopher Street
New York 14, N. Y.

Fellows
MEDICAL MFG. CO., INC.
Pharmaceuticals

Combatting Pathologic Fetor

Obnoxious odors characteristic of many pathological conditions often create a problem almost as demanding as treatment of the disease itself. Putrefying suppurative lesions are perhaps the most common offenders. Though more limited in number, colostomies pose an acute odor problem. Odors emitted by cancer and abscesses of the mouth or certain throat ailments distress both physician and patient.

Until recently such obnoxious odors have been accepted as unavoidable. But now, deodorization with chlorophyll-derivatives offers a practical effective solution. Removal of disease odors often helps the patient adjust to a difficult social, psychic, and physical situation and lifts the morale of the physician, nurse, and other hospital personnel.

FETOR FROM CARCINOMA OF THE TONSILS, ozena, and varied otolaryngological diseases has been effectively deodorized by use of chlorophyll-derivatives both in this country and abroad.

Becker[1] recently at the university in Kiel found that deodorization of fetor from carcinoma of the tonsils was obtained after ingestion of the second 0.1 gm. tablet and could be maintained by continued administration of one tablet three times daily. Odors from massive penetrating tonsillar abscesses, syphilitic ozena, and aphthous stomatitis were suppressed by this same dosage. Becker also noted that fetid suppuration of the nasal cavities lost its bad odor after one filling of the maxillary sinuses with a suspension of chlorophylls.

After using a chlorophyll-derivative mouth wash on 103 patients with bullous lesions of the mouth due to pemphigus, Combes[2] commented on its "significant action" in deodorizing "foul-smelling lesions secondarily infected by anaerobic proteolytic bacteria." Reporting on 1200 cases of varied infections, Gruskin[3] noted "in cases of ulcerative carcinoma where a great deal of putrefaction exists (obviously the result of secondary bacterial infection and proteolysis) the use of chlorophyll tends to clear up this foul odor rather promptly."

with Chlorophyll

DIVERSE SUPPURATIVE WOUNDS which had been described as "draining profusely for months and were so malodorous as to deprive patients and attendants of appetite" brought this comment from Bowers,[4] "Our first observation on beginning use of chlorophyll was that this odor immediately disappeared." Bowers' report covered over 400 cases under 35 military medical officers during a nine-month period.

Recognizing the marked deodorizing potency of topically applied chlorophyll-derivatives, the Reference Committee of the Council of Chemistry and Pharmacy of the American Medical Association[5] said, "Chlorophyll was found consistently to be an effective deodorant when used in foul smelling wounds."

COLOSTOMY, FISTULAE, AND FECAL ODORS are among the most repelling and difficult to manage, yet success in using chlorophyll-derivatives for their control under varied conditions is being confirmed by an increasing number of investigators.

In colostomies, Goodman[6] reports elimination of attending fecal odors by inserting a capsule containing water-soluble chlorophyll and kaolin within the colostomy immediately after the morning irrigation and evacuation. Weingarten and Payson[7] noted complete disappearance of fecal odors within 48 hours after treatment was begun with a dosage of four to eight chlorophyll-derivative tablets daily. On a similar dosage schedule, Joseph[8] eliminated fecal odors in colostomy, fistulae, and bedridden tubercular patients within 49 hours. These reports tend to agree with Westcott's[9] positive results for systemic deodorization.

Deodorization with chlorophyll-derivatives offers a new method of encouragement to patients and may suggest to the physician other applications within his practice. Development of pharmaceutical quality chlorophylls for specific medical applications is an important part of the scientific research program of American Chlorophyll, who first produced chemically-measurable water-soluble derivatives of chlorophyll commercially in 1933. While American Chlorophyll has no product to sell directly to physicians, we will be glad to give you such information as we can on special uses.

WRITE FOR "CHLOROPHYLL 1953" by Dr. Walter H. Eddy

On these pages is only a part of the story on chlorophyll. We hope to tell more in subsequent issues. In the meantime, why not send for your FREE COPY of this completely documented, authentic review of research literature on chlorophyll from Joseph Priestley in 1772 to date? 60 pages, 156 references.

The supply is limited, so write at once to:

AMERICAN CHLOROPHYLL DIVISION
Dept. MT

Strong Cobb & Co. Inc.
Lake Worth, Florida

(1) Becker, K., Abstract, J.A.M.A. 151:593, 1953. Original, Mün. med. Woch. 94:2225, 1952. (2) Combes, F. C., Zuckerman, R., Kern, A. B., N. Y. State J. Med. 52:1025, 1952. (3) Gruskin, B., Am. J. Surgery 49:49, 1940. (4) Bowers, W. F., Am. J. Surgery 73:37, 1947. (5) Moss, N. H., Morrow, V. A., Long, E. C., Ravdin, I., J.A.M.A. 140:1336, 1949. (6) Goodman, J. M., Surgery 28:550, 1950. (7) Weingarten, M., Payson B., Rev. Gastroenterol. N. Y. 18:602, 1951. (8) Joseph, M., West. J. Surg., Ob. & Gyn., 60:363, 1952. (9) Westcott, F. H., N. Y. State J. Med. 51:698, 1950.

LETTERS TO THE EDITOR

—Concluded from page 38a

a product called 'Bufferin.' In cases where large and protracted dosage is indicated for the salicylates, Bufferin has been reported in the literature as giving high blood salicylate levels with no gastric upset."

PHILIP REICHERT, M.D., F.A.C.P., F.A.C.C.
New York 1, N. Y.

Like MT

"I have received MEDICAL TIMES and consider it one of the most readable periodicals I have. It is always read from cover to cover."

HARRY D. NESMITH, M.D.
Salem, Ill.

"MEDICAL TIMES has always been of great assistance in keeping up to date. Your refresher articles are particularly interesting."

EARL HERRON, M.D.
Chicago, Ill.

Refresher Articles

"Just to let you know I appreciate your article on 'Essential Hypertension.' I particularly liked the illustrations of the retinal changes.

"I shall look forward to your monthly reviews."

CHARLES C. HECK, M.D.
Syracuse, N. Y.

"Your special 'refresher' articles have been a great relief, to me and many other readers, from a tedious job to keep up to date. Most of them are complete in themselves so far as the recent knowledges are concerned. I understand that every journal has to have some changes from time to time, but I hope this program will not be discontinued."

M. KAMPEE, M.D.
Chicago, Ill.

uncomplicated progress . . .

Tolerance of feedings	good
Incidence of digestive disturbances	low
Growth response	satisfactory
Discontinuation of night feeding	early
Health and development	excellent

The uncomplicated nutritional progress[1] of infants fed Lactum® speaks for its sound rationale. Lactum is Mead's liquid formula made from whole milk and Dextri-Maltose.®

It provides generous milk protein for sturdy growth and sound tissue structure, with sufficient calories to spare protein and meet the infant's energy needs.

Lactum is convenient and easy to prepare—simply mix equal parts of Lactum and water for a formula supplying 20 calories per fluid ounce.

1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

Lactum

MEAD

MEAD JOHNSON & COMPANY
Evansville 21, Ind., U. S. A.

ENCYNEX

In RHEUMATISM and RHEUMATOID ARTHRITIS

High Blood Salicylate Levels Bring

Quick Relief from PAIN

ENCYNEX is the synergistic combination of sodium salicylate with para-aminobenzoic acid and a powerful analgesic which produces high blood salicylate levels and effective relief of pains and aches due to rheumatism and rheumatoid arthritis.

ENCYNEX relieves joint stiffness and restores the range of motion. Measurements of joint function with the arthrometer showed marked improvement of function in a series of arthritis cases treated with Encynex.

ENCYNEX helps put the patient back on his feet, able to earn his living. With relief from pain, he can use the disabled joints. Clinical improvement usually follows this physiological action.

ENCYNEX has been tested clinically and found effective in a series of patients with rheumatism and rheumatoid arthritis.

ENCYNEX FORMULA

Sodium Salicylate	150	mg.
Para aminobenzoic Acid	32.5	mg.
Acetophenetidin	150	mg.
Sodium Bicarbonate	60	mg.

ADMINISTRATION

The average dose for adults is 2 tablets. It may be repeated in two or three hours or three times daily, as needed for effective pain relief. Supplied in packages of 50 coated tablets.

ENCYNEX

CLINICALLY TESTED

• FOR RHEUMATISM AND RHEUMATOID ARTHRITIS

WRITE FOR SAMPLE AND PROFESSIONAL LITERATURE

•

THE ANGLO-FRENCH DRUG CO. (U.S.A.) LTD.

Manufacturers of

FINE PHARMACEUTICAL SPECIALTIES

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Great Potency

the therapeutic multivitamin tablet with B_{12} and no fish oil

In the smallest, most potent tablet of its kind, OPTILETS offer new convenience in multivitamin therapy. One compressed, easy-to-swallow OPTILET provides six synthetic vitamins *plus 6 mcg. of* B_{12}. With synthetic A, there's no fish-oil odor, taste or "burp." Tablets—not capsules—OPTILETS can't leak, won't stick together. One or more daily is the therapeutic dose. Sugar-coated OPTILETS are available in bottles of 50, 100 and 1000 vanilla-flavored tablets. Cost no more than ordinary therapeutic formula vitamins. Abbott

Each OPTILET tablet contains:

Vitamin A	25,000 U.S.P. units (Synthetic Vitamin A Palmitate)
Vitamin D (Viosterol)	1000 U.S.P. units
Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Nicotinamide	150 mg.
Vitamin B_{12} (as vitamin B_{12} concentrate)	6 mcg.
Ascorbic Acid	150 mg.

Actual Size

Optilets

(Abbott's Therapeutic Formula Vitamin Tablets)

1-123

for the relief
of tension
and associated
pain and spasm of
smooth muscle

Trasentine®-Phenobarbital

can bring about effective relief through threefold action:

1. Sedation
2. Local anesthesia
3. Spasmolysis

Trasentine relieves pain by exerting a local anesthetic effect on the gastrointestinal mucosa. It also produces spasmolysis through a papaverine-like effect on smooth muscle and an atropine-like effect on the parasympathetic nerve endings.

The 20 mg. of phenobarbital in each tablet provides a sedative effect which helps relieve tension without the deeper hypnotic effect of more potent barbiturates.

Each tablet contains 50 mg. Trasentine hydrochloride (adiphenine hydrochloride Ciba) and 20 mg. phenobarbital. Bottles of 100 and 500.

Ciba

Ciba Pharmaceutical Products, Inc.
Summit, New Jersey

2/1901M

MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Ambodryl Hydrochloride (Am-bo-drill Hi-dro-**Clor**-ide), Parke, Davis & Co., Detroit, Mich. Antihistaminic agent used to treat a wide variety of allergies, including hay fever, allergic rhinitis, uricaria, asthma, eczema and migraine. **Dose:** As determined by physician. **Sup:** In bottles of 100 Kapseals.

Antrenyl Bromide (**Ant**-ren-il **bro**-mide) (New Package Size), Ciba Pharmaceutical Products, Inc., Summit, N. J., Anticholinergic agent indicated as an adjunct in the management of peptic ulcer and spasm of the gastrointestinal tract. **Dose:** As determined by physician. **Sup:** In bottles of 50 and 1,000 5 mg. scored tablets as well as in bottles of 100 tablets and in bottles of 1 pint.

Appliderm, White's (**Ap**-li-derm), White Laboratories, Inc., Kenilworth, N. J. New line of dermatologic preparations designed to alleviate symptoms and to avoid complications of "overtreatment dermatitis." **Dose:** As determined by physician. **Sup:** Appliderm No. 1, Lotion, in 3 oz. plastic spray bottles; Ointments, Appliderm 2, 3, 4, 5, 6, 7 all available in tubes of 1½ oz.

Bontril Tablets (**Bon**-tril), G. W. Carnrick Co., Newark 4, N. J. To control obesity, but should be used with caution in the presence of hypertension and in cases of coronary or cardiovascular disease. **Dose:** One or 2 tablets 30 to 60 minutes before breakfast and lunch and at 4 P.M. with a full glass of water. **Sup:** In bottles of 100 and 1,000 tablets.

Cardalin-Phen Tablets (**Car**-da-lin-fen), Irwin, Neisler & Co., Decatur 16, Ill. Companion product to cardalin, for use whenever parenteral, oral or rectal administration of aminophylline or its modifications is indicated; particularly for cardiac and esthmatic conditions and for diuresis. **Dose:** As determined by physician. **Sup:** In bottles of 100, 500 and 1,000 tablets.

Cobaden Parenteral (**Ko**-ba-den) Rand Pharmaceutical Co., Rensselear, N. Y. For the treatment and relief of polyarthritis pain, osteoarthritis, and various acute and chronic arthritic conditions; for bursitis, tendenitis and peripheral neuritis; for pruritus vulvae and ani; for pruritus due to penicillin allergy; and preoperatively in thrombophlebitis. **Dose:** One cc. daily for 10 days, then a rest period of 5 days when treatment is reinstated, if necessary. **Sup:** In 10 cc. multiple dose vials.

Daraprim, (Dar-a-prim) Burroughs Wellcome & Co., Tuckahoe 7, N. Y. Antimalarial. **Dose:** As determined by physician. **Sup:** In boxes of 30 and in bottles of 1,000.

Dibenzyline Capsules (Di-**ben**-za-leen), Smith, Kline & French Labs., Philadelphia 1, Pa. Adrenergic blocking agent for the treatment of peripheral vascular disorders and hypertension of pheochromocytoma. **Dose:** As determined by physician. **Sup:** In bottles of 100 (10 mg.) capsules.

Digitaline Nativelle Intramuscular (Dij-i-**tal**-een Na-ti-**vel**), Varick Pharmacal Co., Inc., New York 13, N. Y. For patients with congestive failure, auricular flutter, auricular fibullation; of particular advantage in treating those patients who are comatose, uncooperative, nauseated, or those whose surgical condition might preclude the use of the oral route. **Dose:** As determined by physician. **Sup:** In boxes (6's and 50's) containing 1 cc. and 2 cc. ampules.

Enzodase (**En**-zo-dace, E. R. Squibb & Sons, New York 22, N. Y. Parenteral hyaluronidase, to further rapid local anesthetization, in treating sprains and bursitis or in surgery; to enable saline, glucose and other fluids to be administered subcutaneously; in traumatic swelling. **Dose:** As determined by the physician. **Sup:** In vials of 25.

—Concluded on page 64a

Prelude to asthma?

not necessarily . . .

Tedral, taken at first sign of attack, often forestalls severe symptoms.

in 15 minutes... Tedral brings symptomatic relief with a definite increase in vital capacity. Breathing becomes easier as Tedral relaxes smooth muscle, reduces tissue edema, provides mild sedation.

for 4 full hours... Tedral maintains more normal respiration for a sustained period—not just a momentary pause in the attack.

Prompt and prolonged relief with Tedral can be initiated any time, day or night, whenever needed, without fear of incapacitating side effects.

Tedral provides:

theophylline	2 gr.
ephedrine	3/8 gr.
phenobarbital	1/8 gr.

in boxes of 24, 120 and 1000 tablets

Tedral

WARNER-CHILCOTT
Laboratories NEW YORK

YOU CAN HELP YOUNG PARENTS ENJOY A RELAXING VACATION, TOO . . . BECAUSE WHEREVER THEY GO THEY CAN FOLLOW YOUR **PET MILK** FORMULA

Yes, Pet Milk babies *can* travel. And young mothers can have all the benefits of a truly restful vacation. There's no chance of disrupting a Pet Milk baby's diet.

Wherever or whenever it is obtained, Pet Evaporated Milk is uniform in composition and quality. It is comparable in digestibility to human milk . . . and, sterilized in its sealed container, Pet Milk is *always a safe* milk for babies.

This is important, too: wherever they buy it, Pet Milk, the original evaporated milk, costs less than any other form of whole milk—far less than special infant feeding preparations.

Recommend good Pet Milk for the babies in your care. It's safe! It's nutritious! And it's available everywhere!

PET MILK COMPANY, 1483-G ARCADE BUILDING, ST. LOUIS 1, MO.

FAVORED FORM OF MILK  ***FOR INFANT FORMULA***

A *NEW* WEAPON

for the treatment of

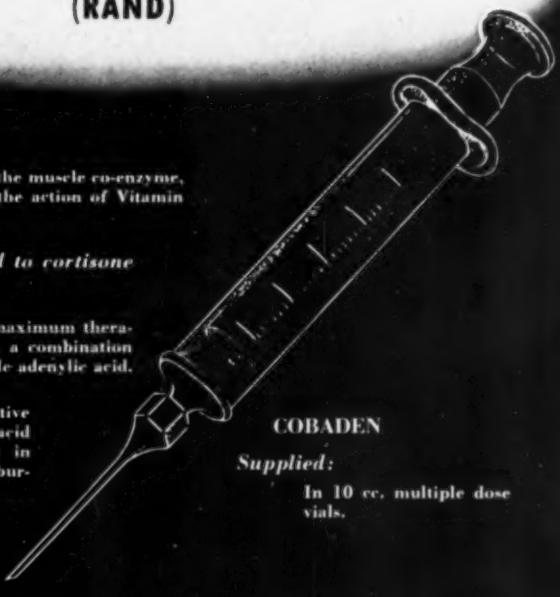
BURSITIS and ARTHRITIS

(Musculo-fasciaitis)

COBADEN

(RAND)

NOW



The therapeutic usefulness of the muscle co-enzyme, adenylic acid is enhanced by the action of Vitamin B_{12} (Cyanocobalamine).

Adenylic acid is unrelated to cortisone or the steroid hormones.

Clinical reports demonstrate maximum therapeutic action is obtained with a combination of Vitamin B_{12} and pure muscle adenylic acid.

COBADEN is far more effective than either B_{12} or adenylic acid when administered separately in the treatment of arthritis or bursitis (musculo-fasciaitis).

COBADEN

Supplied:

In 10 cc. multiple dose vials.

COBADEN

each cc. contains:

Adenosine-5-Phosphoric acid . . . . . 25 mg.
(ATP or adenylic acid)

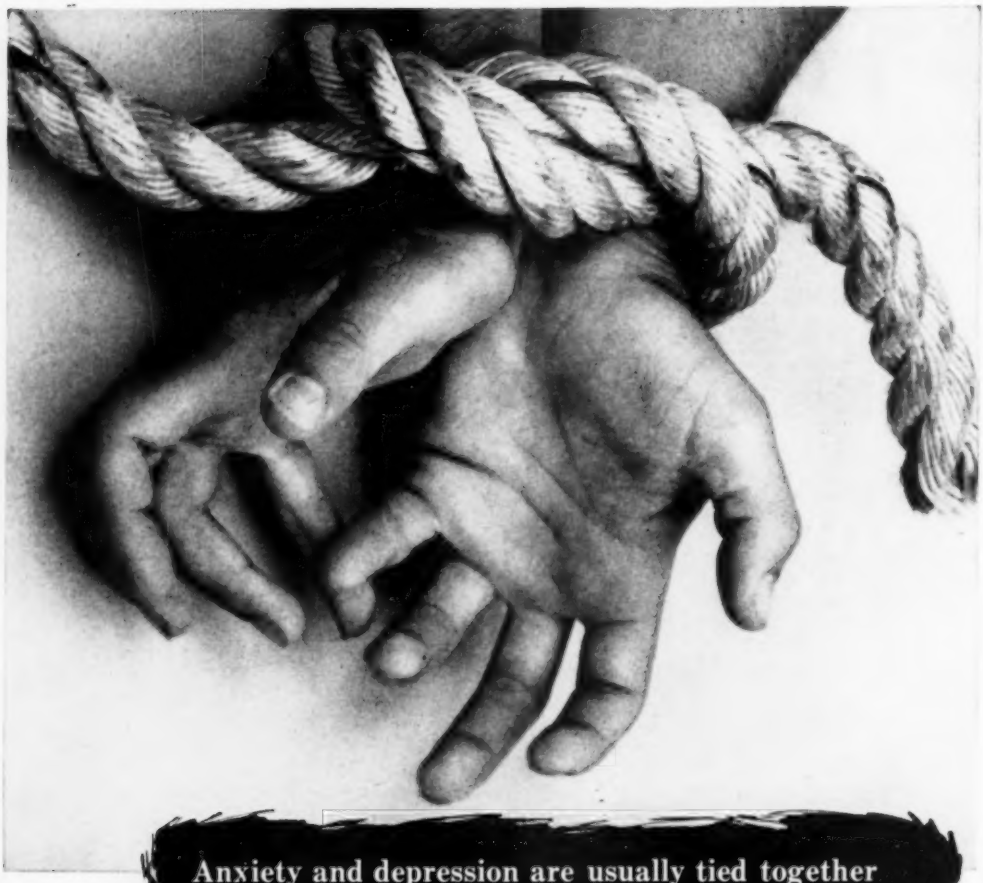
Cyanocobalamine (B_{12}) . . . . . 60 mcg.

We will gladly send you complete literature upon request.

Available through your Prescription Pharmacy or Surgical Supply Dealer . . . or direct from:

Rand PHARMACEUTICAL CO., INC.

333 COLUMBIA STREET, RENSSELAER, NEW YORK



Anxiety and depression are usually tied together

barbiturates alone *calm anxiety—*
but too often deepen depression

stimulants alone *relieve depression—*
but may aggravate anxiety

DEXAMYL* *relieves* both *anxiety and depression*

Smith, Kline & French Laboratories, Philadelphia

Each 'Dexamyl' Tablet contains Dexedrine★ Sulfate (dextro-amphetamine sulfate, S.K.F.), 5 mg., and amobarbital (Lilly), ½ gr. Each 5 cc. teaspoonful of 'Dexamyl' Elixir is equivalent to one Tablet.

★*T.M. Reg. U. S. Pat. Off.*

WHEN BALANCE IS NEEDED

When secondary deficiencies appear after prolonged administration of the newer broad spectrum antibiotics, a complete vitamin-mineral supplement is indicated.

VITERRA supplies adequate amounts of Vitamins, Minerals and Trace Elements for the rapid restoration of nutritional balance so important during convalescence.

Viterra ALL IN ONE CAPSULE

Vitamin A	5,000 U.S.P. Units	Calcium	213 mg
Vitamin D	500 U.S.P. Units	Cobalt	0.1 mg
Vitamin B 12	1 mcg	Copper	1 mg
Thiamine Hydrochloride	3 mg	Iodine	0.15 mg
Riboflavin	3 mg	Iron	10 mg
Pyridoxine Hydrochloride	0.5 mg	Manganese	1 mg
Niacinamide	25 mg	Magnesium	6 mg
Ascorbic Acid	50 mg	Molybdenum	0.2 mg
Calcium Pantothenate	5 mg	Phosphorus	165 mg
Mixed Tocopherols (Type IV)	5 mg	Potassium	5 mg
		Zinc	1.2 mg

J. B. ROERIG AND COMPANY • CHICAGO

—Concluded from page 56a

'Eskabarb' Spansule (S-ca-barb), Smith, Kline & French Laboratories, Philadelphia 1, Pa. For all conditions in which continuous sedation is beneficial. **Dose:** As determined by physician, should not be given to patients known to be sensitive to barbiturates. **Sup:** In bottles of 30 Spansules.

Gerisal (Jer-i-sal), Geriatric Pharmaceutical Corp., Bellerose, N. Y. For the symptomematic relief and management of arthritic, musculoskeletal, neuritic, and allied disorders. **Dose:** Two or more tablets after meals and before retiring as directed by the physician. **Sup:** In bottles of 100 and 1,000 tablets.

Levugen 10% (Lev-u-jen), Mead Johnson & Co., Evansville 12, Ind. For use in any of the conditions in which intravenous dextrose has been employed, and in clinical states characterized by depletion of liver glycogen. **Dose:** Intravenously, in the same manner as dextrose solutions; amount to be determined by the physician. **Sup:** In flasks of 1 liter.

Mabutone Tablets (Mab-u-tone), Reed & Carnrick, Inc., Jersey City 6, N. J. Triple-action sedative, relaxant and anti-depressant for use in a wide variety of psychotic, neurotic and psychoneurotic conditions. **Dose:** As determined by the physician. **Sup:** In bottles of 50, 100 and 1,000 tablets.

Magnamycin 250 Mg. Tablets (Mag-na-mi-sin), Chas. Pfizer & Co., Brooklyn 6, N. Y. New dosage form for control of gram positive infections, especially staphylococci, resistant to penicillin and other antibiotics. **Dose:** As determined by physician. **Sup:** Initially packaging will be in vials of 16 tablets (250 mg.), but 100 size bottles are planned for introduction in the near future.

Manophyllin Tablets (Man-o-phil-lin), Geriatric Pharmaceutical Corp., Bellerose, N. Y. For the management of essential hypertension and prophylactic treatment of the anginal syndrome. **Dose:** One or 2 tablets 1 hour before each meal and before retiring. **Sup:** In bottles of 100 and 1,000 tablets.

Monichol (Mon-i-coal), Ives-Cameron Co., Inc., New York 16, N. Y. In those conditions characterized by hypercholesteremia of the idiopathic or familial type; also of value in disturbances of the cardiovascular system associated with hypercholesteremia. **Dose:** One teaspoonful 4 times daily; or 2 teaspoonsful 2 times daily; or as directed by the physician. **Sup:** In bottles of 12 oz.

Multivitamin Infusion (Mul-ti-Vi-ta-min), U. S. Vitamin Corp., New York 17, N. Y. For emergency feedings in surgery, extensive burns, fractures and other trauma, severe infectious states, comatose conditions, etc., which may provoke a shock or stress syndrome requiring increased nourishment; also indicated in biliary disease, peptic ulcer, persistent diarrhea and other conditions which impair absorption and utilization and in celiac disease; reduces incidence of postoperative nausea and vomiting, improves sense of well being and appetite, reduces postoperative abdominal distention, accelerates healing of surgical wounds. **Dose:** For intravenous feeding, contents of the 10 cc. ampul is added once daily directly to not less than 500 cc., preferably 1,000 cc., of intravenous dextrose or saline. **Sup:** In 10 cc. ampuls, in boxes of 1, 5 and 25.

NTZ Solution (New Form), (N.T.Z.), Winthrop-Stearns, Inc., New York 18, N. Y. In colds, hay fever, sinusitis, etc., provides relief by reducing swelling of the nasal mucous membrane, neutralizing histamine effects and helping to overcome bacteria. **Dose:** As determined by physician. **Sup:** In bottles of 16 oz.

Tolyphy Elixir (Tol-i-fi), Chicago Pharmacal Co., Chicago 40, Ill. In treatment of the muscular spasm associated with disease of the joint from inflammation or mechanical derangement for effective relief of the painful spasm of the skeletal muscles, surrounding the joint, in arthralgia, neuritis, fibrositis, lumbar myositis, torticollis, traumatic and rheumatoid arthritis, occipital headaches, spasticity, and Parkinson's syndrome. **Dose:** As determined by physician. **Sup:** In bottles of 1 pt. and 1 gal.

Sombulex Tablets (Som-bu-lex), Schenley Laboratories, Inc., Lawrenceburg, Ind. Short-acting barbiturate to induce sleep. **Dose:** One or 2 tablets taken at bedtime, preferably with a warm beverage. **Sup:** In bottles of 100 tablets.

Veralba Tablets (Ver-al-ba), Pitman-Moore Co., Indianapolis 6, Ind. For the symptomatic treatment of essential hypertension, acute or chronic renal hypertension, malignant hypertension, and hypertension associated with toxemia of pregnancy. **Dose:** As determined by physician. **Sup:** In bottles of 100 tablets (0.2 mg. and 0.5 mg.).

When she's *courted* by *Temptation*

WHEN the dieter rationalizes that good times aren't *good* times without good food, it's time to prescribe DESOXYN Hydrochloride. One 2.5-mg. or 5-mg. tablet before breakfast and another before lunch will keep lusty appetites in check and at the same time boost dieting morale with a sense of well-being. Besides obesity, DESOXYN is indicated in depressive states accompanying illness, convalescence or the menopause...also as an adjunct in chronic alcoholism and cerebral arteriosclerosis. Available at all prescription pharmacies in tablets, elixir and ampoules. Abbott

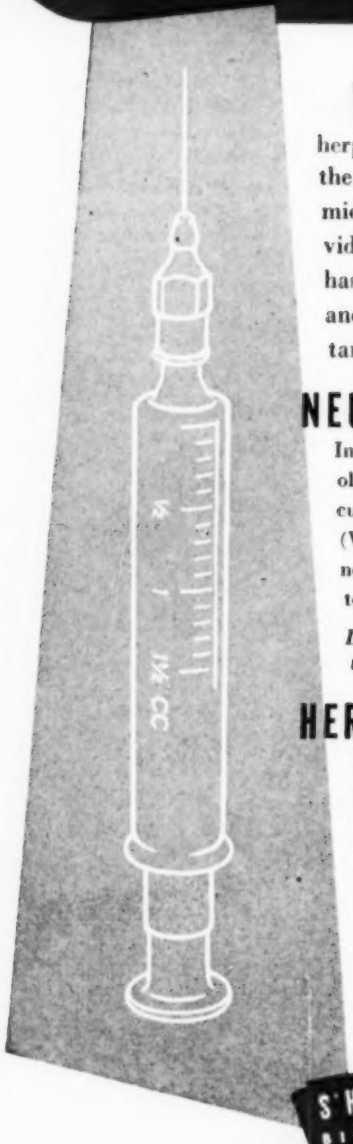
prescribe...

DESOXYN® *Hydrochloride*

(METHAMPHETAMINE HYDROCHLORIDE, ABBOTT)

PROTAMIDE

FOR THE PATIENT SEEKING RELIEF FROM NERVE ROOT PAIN



WHEN the disturbing and painful symptoms of herpes zoster, or the stinging distress of neuritis brings the patient to you, quick relief is expected. Protamide helps solve this therapeutic problem by providing prompt and lasting relief in most cases. This has been established by published clinical studies, and on the valid test of patient-response to Protamide therapy in daily practice.

NEURITIS (Sciatic—Intercostal—Facial)

In a recent study* of 104 patients, complete relief was obtained in 80.7% with Protamide. 49 were discharged as cured after 5 days of therapy with no subsequent relapse. (Without Protamide, the usual course of the type of neuritis in this series has been found to be three weeks to over two months.)

Dosage: one 1.3 cc. ampul intramuscularly, daily for five to ten days.

HERPES ZOSTER

A study* of fifty patients with Protamide therapy resulted in excellent or satisfactory response in 78%. (No patient who made a satisfactory recovery suffered from postherpetic neuralgia.) Thirty-one cases of herpes zoster were treated with Protamide in another study.* Good to excellent results were obtained in 28.

Dosage: one 1.3 cc. ampul intramuscularly, daily for one to four or more days.

* *A folio of reprints of these studies will be sent on request.*

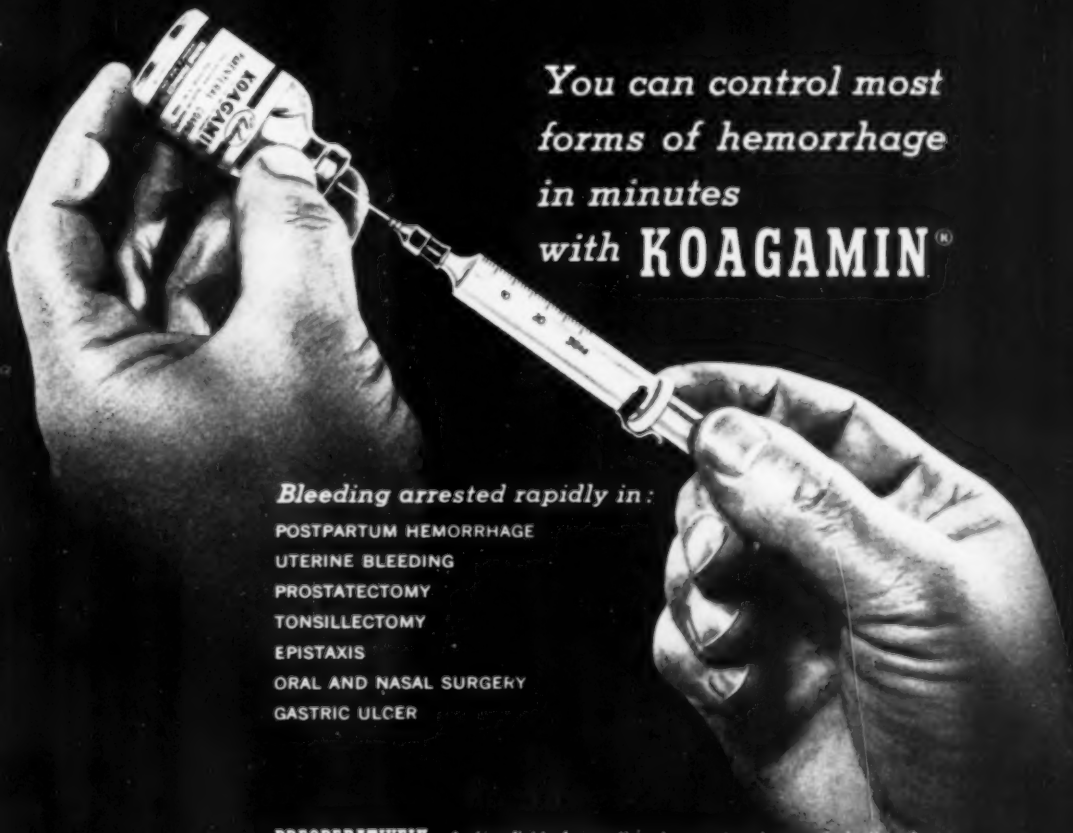
SHERMAN LABORATORIES
BIOLOGICALS • PHARMACEUTICALS
WINDSOR DETROIT 13, MICH. LOS ANGELES

Thephorin 'Roche'
the daytime
antihistamine —

Thephorin is a potent antihistamine basically different in structure from all other antihistamines -- different also in its action -- it usually relieves allergic symptoms without drowsiness. Out of more than 2000 patients treated with Thephorin, 97% were alert and wide awake during therapy.

About Thephorin therapy in hay fever—

Over 79% of 859 patients suffering from hay fever were relieved by Thephorin.® This daytime antihistamine usually provides convenient control of allergic symptoms without drowsiness. 10-mg and 25-mg tablets, plus anise-flavored syrup.



You can control most forms of hemorrhage in minutes with **KOAGAMIN**®

Bleeding arrested rapidly in:

POSTPARTUM HEMORRHAGE
UTERINE BLEEDING
PROSTATECTOMY
TONSILLECTOMY
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ORAL AND NASAL SURGERY
GASTRIC ULCER

PREOPERATIVELY A clear field of operation, less oozing, less cauterization, less local hemostatics.

POSTOPERATIVELY Helps prevent secondary bleeding.

Koagamin acts in minutes— regardless of the cause of bleeding. Vitamin K acts slowly and is indicated only where there is prolonged prothrombin time. Where you want more rapid action use KOAGAMIN with Vitamin K.

Aqueous solution of oxalic and malonic acids for parenteral use.
Supplied in 10cc. diaphragm-stoppered vials.

"Keep a vial where you can lay your hands on it."

Chatham

Available through Your Physician's Supply House or Pharmacist.

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Mr. Drencher is a Hunger-Quencher

EVEN a 100-proof diet may lack nutritional balance. Mr. D. needs a new dietary *and* DAYALETS —the fishless, burpless multivitamins. Synthetic A plus eight other important vitamins. No fish-oil taste or odor, no allergies due to fish oils. How about *your* vitamin deficients? They'd like DAYALETS. Abbott

Dayalets®

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Each DAYALET Tablet Represents:

→ Vitamin A	10,000 U.S.P. uni
Vitamin D	1000 U.S.P. uni
Thiamine Mononitrate	5 m
Riboflavin	5 m
Nicotinamide	25 m
Pyridoxine Hydrochloride	1.5 m
→ Vitamin B_{12}	1 mc
Pantothenic Acid	5 m
Ascorbic Acid	100 m

Recent Developments In Vitamin B_{12}-Intrinsic Factor Therapy

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Particularly during the past two years a great deal of interest has been focused on the intrinsic factor of Castle. Although this elusive gastric principle has been known since Castle first identified it in 1929, until very recently no pure factor, not even a routinely reliable concentrate, was available for therapeutic use.

Studies on the intrinsic factor were given considerable impetus with the discovery of vitamin B_{12} and its subsequent identification as the extrinsic factor. The properties of vitamin B_{12} are exactly those of the extrinsic factor of Castle, even to the need to combine it with intrinsic factor when given orally. In pure form, it is a red, crystalline, odorless, tasteless power, which dissolves in water to the extent of 1.2% at 25° C. to make a neutral solution. Its molecular weight is approximately 1300. It is called a "co-ordination complex" and contains cobalt. Vitamin B_{12} is relatively heat-stable and in solution at pH 4.5 to 5.0 it can withstand, without destruction, autoclaving for 20 minutes at 120° C. It is, however, slowly destroyed by oxidizing or reducing agents, and since it is usually present in such a minute amount, it is said to be more than usually vulnerable to reaction with trace contaminants. It may also be rendered unavailable for use by adsorption on certain inert substances, such as powdered talc or kaolin or the like, if they should be administered at the same time as the vitamin. Lastly, the vitamin may be destroyed by various microbes that consume it.

When administered by the parenteral route, as little as 1 or 2 micrograms of vitamin B_{12} per day provide maximal hematological response in pernicious anemia. When administered orally, however, in the absence of intrinsic factor, doses as much as 100 times this minimal effective parenteral dose give unreliable and unpredictable effects.[1] If adequate intrinsic factor is also administered, oral therapy with 5 micrograms of vitamin B_{12} gives an effective action, indicating that intrinsic factor must be available for the absorption of orally administered vitamin B_{12}.[2]

Experiments have shown that the intrinsic factor and vitamin B_{12} must be administered together or in such a way that they come into some contact in the digestive tract. If the vitamin is given 12 hours before the intrinsic factor, there is no effective response in Addisonian patients. Likewise, even when given together no response may occur if the vitamin becomes adsorbed on some inert colloid, or is otherwise prevented from contact with the intrinsic factor as, for example, if the latter is too heavily coated with fat or some other protectorant.

The Intrinsic Factor is secreted in man by the mucosa of the stomach, from

its fundic and cardiac portions. Human saliva and normal duodenal juice, not mixed with gastric juice, do not contain it. There have been reports that the whole of the small intestine has intrinsic factor activity, but Castle and his co-workers showed that anti-anemia activity of the intestine is lost if the bowel is thoroughly washed. They interpreted their studies to indicate that intrinsic factor secreted from the stomach was passively absorbed in the mucosa of the intestine and was not actively secreted there.

Chemical properties of the intrinsic factor resemble those of enzymes, yet it is not any one of the identified digestive enzymes or other factors of the stomach or intestine. It has been considered to be thermolabile, being destroyed by heating to 70° C. for 30 minutes, perhaps by exposure to 40° C. for long periods. Very recently, however, it was reported that a bound combination of vitamin B_{12} and intrinsic factor (marketed under the name of Bifacton® 'Organon') retained its activity even after boiling,[5] so that it seems possible that when intrinsic factor is bound to vitamin B_{12} it may form a heat-stable complex.

In line with studies on intrinsic factor, the concept of microbial synthesis and consumption of vitamin B_{12} in the intestinal tract is also receiving considerable attention. These studies were stimulated by the discovery that certain antibiotics change or reduce the intestinal flora for significant periods of time. Aureomycin, for example, greatly reduces the number of coliform organisms which consume vitamin B_{12}, and with this there is a concomitant rise in numbers of *B. megatherium*, which has been reported to produce large quantities of vitamin B_{12}. When aureomycin was given orally to pernicious anemia patients definite but submaximal hematological improvement resulted.[3] Yet, in another series, after partial sterilization of the intestine with aureomycin and other drugs, oral administration of 80 micrograms of vitamin B_{12} was ineffective.[8]

Ternberg and Eakin[6] demonstrated that normal gastric juice contains a heat labile, non-dialyzable substance which combines with vitamin B_{12} in such a manner as to make the vitamin unavailable to bacteria. Heating this complex liberated the vitamin B_{12} which again became available for microbial growth, and heating the gastric juice before incubation with vitamin B_{12} destroyed this "combining power." Although this "combining power" was at first visualized as a possible test for intrinsic factor activity, the test has not proved successful inasmuch as other substances, such as lysozyme,[4] which has no intrinsic factor activity in patients with Addisonian pernicious anemia, also show this so-called "combining power" with vitamin B_{12} in terms of bacterial availability.

Another Possible Test for intrinsic factor activity has been developed as the result of the isolation of a specific B_{12}-consuming mutant of *Escherichia coli* from the intestine of pernicious anemia patients.[1] This mutant which has been found in abundance in pernicious anemia patients vies with the host for vitamin B_{12} and because of the lack of intrinsic factor is invariably the victor. Studies showed that when vitamin B_{12} was bound to intrinsic factor, this B_{12}-consuming mutant could not get to the vitamin, conclusively demonstrating the protective power of intrinsic factor. Present opinion further indicates that when large doses of unprotected vitamin B_{12} are ingested, the B_{12}-consuming bacteria have ready access to the vitamin, proliferate, and become even stronger competitors with the host for future vitamin B_{12} consumed.

Although vitamin B_{12} and intrinsic factor have been prepared in combination in the laboratory for experimental use, until recently no reliable concentrate of intrinsic factor was available. The race to produce it has involved scientists from all over the world. Much of the work was

impeded because of the necessity to test concentrates in patients having pernicious anemia. The goal, however, has been reached by a product* containing vitamin B_{12} with intrinsic factor concentrate which has been approved by the Anti-Anemia Preparations Advisory Board of the United States Pharmacopoeia—the agency having jurisdiction over all anti-pernicious anemia preparations. Microbiological tests indicate that the vitamin B_{12} present in this preparation is "bound" to intrinsic factor. The significance of the recent report that this particular preparation, even when boiled, does not lose its anti-anemia activity[3] is not known at present.

Clinical Results of the daily administration of 1 U.S.P. Unit, Oral of Bifacton (the official unitage assigned to a dose of 2 Bifacton tablets) are reported to be very striking. Within a few days the Addisonian pernicious anemia patient "feels better" and bedridden patients may feel able to get out of bed, even before the blood picture changes. The daily reticulocyte counts will show that the reticulocyte value rises steadily after the fourth or fifth day of treatment to maximal values on days 7 to 12. Thereafter, the red blood cell count rises steadily, with maximal response possible. The soreness of the tongue usually disappears toward the end of the first week.

The availability of a reliable intrinsic factor preparation now makes it possible to treat patients with vitamin B_{12} by the oral route with complete assurance that it will be effective irrespective of the adequacy of the secretion of intrinsic factor by the stomach of the patient. Further, since the product protects vitamin B_{12} from destruction by bacteria in the intestine, it prevents the proliferation of vitamin B_{12}-consuming mutants, which might occur when large doses of unprotected vitamin B_{12} are administered.

Evidence is accumulating to show that along with many other functions which fail or diminish with advancing age, the stomach becomes deficient in its production of digestive enzymes and intrinsic factor. Although pernicious anemia is an expression of extreme deficiency of intrinsic factor and thereby of vitamin B_{12}, nevertheless, degrees of deficiency of intrinsic factor and failure of absorption of vitamin B_{12} may be expressed in other ways, such as the general slowing down of metabolic processes of the aging body, mental and nerve deterioration, etc. For such patients, this intrinsic factor concentrate with vitamin B_{12} offers a highly desirable form of therapy, for it eliminates the need for injections. For children, also, it provides a tremendous stimulant for growth, appetite, and metabolic processes, without the danger of the vitamin B_{12}-consuming mutants of the intestines.

It seems conceivable that now that a reliable means to prepare a preparation of intrinsic factor has been developed, the isolation of this elusive gastric principle in chemically pure form may not be too far in the future. Meanwhile, however, it is gratifying finally to have a preparation which genuinely protects and assures vitamin B_{12} absorption.

* Bifacton, ® Organon Inc., Orange, N. J.

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Dermatomycoses

Continued from last month, this summarization attempts to cover the essential information on the subject, including therapy, and is designed as a time-saving refresher for the busy practitioner.

Part 2

Minimal Hyperkeratosis Where there is a minimum of hyperkeratosis and inflammation a rather large variety of preparations have been recommended and are in common usage. Among them is Iodine Tincture U.S.P. The present official tincture is a 2 per cent tincture. Chrysarobin Ointment U.S.P. is still used clinically and found to be effective in some cases.[11] However, the official ointment is a 6 per cent ointment and this concentration is frequently irritating. Consequently, lower concentrations are usually employed. Chrysarobin is also sometimes used as a 2 per cent solution in chloroform. This substance has the distinct disadvantage that it produces almost indelible staining. Anthralin Ointment N.F. has the advantage over Chrysarobin that it produces less staining and is probably less irritating. The concentration is often reduced from that of 1 per cent in the official ointment to as little as 0.1 per cent. This substance has also been shown to be effective in some cases.[11]

Sulfur is sometimes used alone in the form of an ointment up to as high as a 30 per cent concentration. Perhaps more frequently it is combined with salicylic acid. A form of sulfur for which greater effectiveness is claimed is a colloidal sulfur cream.[24]

Several mercury compounds have been used in the treatment of tinea pedis.[26] Ammoniated mercury alone in concentrations up to 10 per cent in petrolatum or in combination with salicylic acid or sulfur is often used. Phenyl mercuric salts have been employed in the form of ointments or solutions.[27] A commercial preparation provides the effect of mercury in liquid form as a mercury soap.[28] The organic mercurial antiseptics[29] have also been used in the treatment of superficial fungus infections, particularly when inflammation or secondary bacterial infection is present.

Certain fatty acids received a great deal of attention during World War II because of their fungistatic activity. Of those studied undecylenic, caprylic, and propionic acids and their salts were found to be the most effective. However, clinical experience has shown that these substanstances are not as effective as *in vitro* tests would indicate them to be. Perhaps this is due to their poor penetration. However, they are being used extensively in the treatment of superficial fungus infections and they have been found to be at least as effective as fungicides such as sulfur and salicylic acid. A factor which has contributed greatly to their usefulness is the fact that they are less irritating than any other preparation of similar fungicidal strength.

In general the fatty acids are applied in the form of ointments at night. In the

morning the area is washed thoroughly and then they are applied in the form of a powder. An example of such an ointment or powder is as follows:

Zinc undecylenate	20.0
Undecylenic acid	5.0
Hydrophilic Ointment U.S.P. or Talc q.s. ad.	100.0[30]

The base could be varied by using such as Polyethylene Glycol Ointment U.S.P., White Petrolatum, or one of a variety of other washable or non-washable ointment bases. The proportions given above are those usually employed for the undecylenates. The sodium or copper salt is sometimes substituted for the zinc salt. The propionates are usually used as the sodium salt in a concentration of 10 per cent and the acid in a concentration of about 2 per cent. These may be combined in bases similar to those used for the undecylenates.

A 10 per cent sodium caprylate ointment with 5 per cent zinc caprylate has been successfully used. The base employed was a Carbowax.

A number of commercial preparations are available containing undecylenates,[31] caprylates,[32] and propionates[33] in the form of ointments, creams, lotions, and powders.

Thymol, cinnamon oil and clove oil have some antifungal activity. They may be included in lotions, where the solvent is alcohol, in concentrations of 0.1 per cent. Boric acid powder has been found to be effective as a dusting powder. It may be used alone or in combinations with other ingredients.

Newer Fungicides One of the newest fungicides which is receiving considerable attention is 2-dimethylamino-6-(beta-diethylaminoethoxy) benzothiazole (Asterol).[34] It is available in the form of an ointment, a powder and a tincture. In a recent study 24 patients with tinea pedis of long standing were cured by the application of the ointment each night and the powder each morning. An additional 24 were much improved while 6 were not benefited.[35]

A number of other substances have been studied for fungicidal activity and have been found to be effective. They have been made available in the form of proprietary preparations in one or more of the forms in which topical fungicidal agents are employed, namely, ointment, cream, powder, or liquid. Included among these substances are chlor-hydroxyquinoline,[36] hydroxyquinoline benzoate,[37] metacresylacetate,[38] nitrofurfuryl methyl ether,[39] ortho-phenyl phenol,[40] ammonium pentachlorphenate,[41] dibromsalicylanilide,[42] trimethyl ethyl gallol,[43] bismuth formic iodide,[44] and benzethonium chloride in combination with an antihistaminic[45]

Antibiotics The continuing search in the field of antibiotics has begun to disclose such compounds which have antifungal activity. Few, if any, of them have been studied clinically but *in vitro* they have shown activity against the pathogenic fungi. Among the fungicidal antibiotics are: fungicidin,[46] obtained from the culture of *Streptomyces aureus;* rimocidin,[47] obtained from *Streptomyces rimosus*, ascosin,[48] obtained from *S. aureus*, and fradicin,[49] obtained from *S. fradiae*.

One report was noted in which Diphenhydramine Hydrochloride was given in a dose of 50 mg. three times a day to half of 30 patients with superficial fungus infections. It was found that pruritis was relieved, hyperidrosis was well controlled, and the vesicles dried to a greater degree among those patients receiving the antihistamine.

Dermophytid Reactions Dermophytid reactions are treated symptomatically, usually with calamine lotion or phenolated calamine lotion. Since there are no fungi present in the ids, fungicides or other stringent agents are not necessary.

X-rays Superficial X-ray therapy in fractional dosage has been of value as a palliative in some cases of nearly all clinical varieties of dermatomycoses, resulting in the same pronounced benefit as observed in eczematoid skin lesions. X-ray has been particularly helpful in the acute eruptions of the hands and feet, both in direct infections and dermophytids. The usual dosage is 50 to 150 r units of unfiltered radiation every 5 days or longer for 3 to 6 treatments, which is usually sufficient. In recurrent attacks of dermatomycoses or dermophytid it is necessary to avoid excessive use of X-ray since the same areas are usually involved and radiodermatitis may result. X-ray does not kill fungi, therefore, this therapy is not curative. Itching is usually relieved after the first treatment. The dosage is fractional and should be below that required to produce erythema or epilation.

It must be remembered in treating dermatomycoses that various remedies may have to be tried before the patient responds and that the therapy varies with the individual. Much the same principles apply in treatment regardless of the area of the body involved. Therefore, the discussion of therapy has been more extensive under this heading. It will be less detailed under the subsequent forms of tinea which shall be discussed.

Tinea Capitis is also commonly known as ringworm of the scalp, tinea tonsurans, and herpes tonsurans. This condition is usually caused by *Microsporon audouini* although species of Trichophyton may be responsible. Several species of fungi which infect kittens and puppies, notably *Microsporon canis*, have been known to be transmitted to and cause infection in human beings.

Tinea capitis occurs to the greatest extent in children, boys being infected five times more frequently than girls. It is easily transmitted by contact with infected persons or animals, although spores may be transmitted in other ways, such as the plush on the back of a movie theater seat. This disease is a chief cause of loss of hair in children.

The presence of typical lesions in children is strong evidence for the existence of a fungus infection. The lesions may be of several types.

1. *The "Gray Patch"* type of lesion begins as one or more gray, round patches which at first give the appearance of a bald area. The skin within the patch is scaly, there is slight inflammation, but there are few if any vesicles. The hair follicles are invaded by the fungus. The hairs are dull and lusterless and finally break off one or two millimeters above the skin. These patches, which may attain the size of a silver dollar or larger, may occur anywhere on the scalp but they occur most commonly on the nape of the neck.

2. *Lesions* of this second type are similar to those above but there is a greater degree of inflammation. The center of the lesion is scaly or encrusted but is less inflamed than the edges. Vesicles may be observed. The hair is usually completely lost at the center, being broken off along the edges as the lesion expands.

3. *The third type of lesion* is known as Kerion Celsi. The onset is acute and localized with a severe inflammatory reaction. The lesion is soggy with deep seated vesicles and pustules. Scaling and crusting occur to a marked degree. There is considerable discomfort to the patient, and secondary infections are not uncommon.

4. *The endothrix type of infection* invades the hair shaft causing the hair to break off, often below the surface of the skin. A permanent alopecia often results.

Diagnosis Tinea capitis is usually relatively easy to diagnose since it has been found that infected hairs fluoresce blue or green when inspected under ultraviolet light of 3300 to 3600 Å, commonly called "Wood's Light". However, there are some types of infections in which authors differ as to whether or not fluorescence of the hair is present. Diagnosis may also be

made by microscopic examination or culturing as discussed previously under tinea pedis infections.

Differentiation This disease should be differentiated from alopecia areata in which the scalp is left smooth and white without scaling or stumps of broken hair. Syphilitic alopecia also has no residual hair stubble and occurs in a characteristic moth-eaten appearance.

Seborrheic dermatitis is a condition in which the lesions are less clearly defined and there are no broken hairs. The scales are brownish-gray and greasy in appearance.

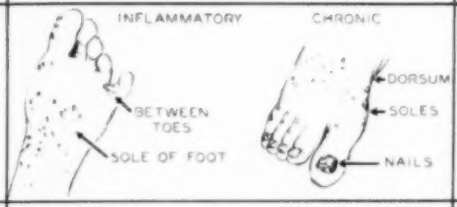
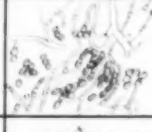
Prophylaxis Tina capitis is a contagious disease and, therefore, parents of infected children have a responsibility toward preventing the spread of the disease among other children. Adults may not be immune in every case.[52] The movement of an infected person among other persons, particularly children, should be restricted. The head of an infected person should be covered with a linen cap at all times. No games should be permitted where there is bodily contact. The infected person should have his own comb, and towels used by him should be boiled before being used by someone else. He should not go to a public barber shop nor to a motion picture theater or gathering place where his head will rub against the back of the seat.

Uninfected children should be kept from contact with infected children. Infection may further be prevented if the hair is given a shampoo immediately after every visit to the barber shop. Uninfected children in the same family or classroom with an infected child should be examined under Wood's light for possible beginning infection. Household pets should also be examined to be sure they are not carrying the disease.

Therapy of Non-Inflammatory Type The best treatment of the noninflammatory form of tinea capitis involves some form of epilation. Usually Roentgen rays are indicated.[11,12] The action of the x-rays is physical and not fungicidal, causing a temporary defluvium during which time the infection is also carried away. X-rays should not be used when the patient is under 3 years of age or near puberty, for such treatment is not without danger. Such treatment should also be performed only by trained and responsible persons. When the infection is localized and manual epilation with forceps is practical, Roentgen ray epilation should be avoided. Before x-ray treatment is begun the hair should be clipped short and kept short all during treatment.

When epilation begins, some 18 to 21 days after x-ray treatment, a fungicidal ointment should be applied each night. Salicylanilide in a concentration of 5 per cent may be used. A number of preparations containing this fungicide are available.[53] Concentrations of more than 5 per cent should be avoided, for higher concentrations have been found to be irritating. A 5 per cent ointment of Asterol[54-57] or a 3 per cent ammoniated mercury ointment (the U.S.P. ointment is 5 per cent) has been found to be effective. Daily shampoos are in order. The patient should wear a tight fitting linen or stocking cap at all times.

If x-ray epilation is contraindicated or is not available manual epilation should be employed twice a week. The hairs may be more easily removed by applying a cap of adhesive tape and then removing it—along with the hairs. Salicylanilide ointment may be applied twice daily, for therapy. Once the ointment is applied over the entire scalp and once over only the infected areas. A 10 per cent ammoniated mercury ointment may be applied to the noninfected parts of the scalp to prevent spreading. If a cure is attained with this form of treatment, it usually occurs with 2 to 6 months of daily treatment.[12,58] Asterol has been shown to be effective[55-57] if the tincture is thoroughly sprayed on the scalp in the morning and the ointment

TINEA	LOCATION	CAUSATIVE ORGANISMS
PEDIS		 TRICHOPHYTON GYPSEUM ALSO TRICHOPHYTON PURPUREUM
CAPITIS FLUORESCENT IN WOOD'S LIGHT		 MICROSPORON AUDOUINI
CORPORIS	 LESIONS APPEAR ON ANY PART OF THE GLABROUS SKIN.	 MICROSPORON LANOSUM
CRURIS	 GROIN, AXILLAE, AND INTERTRIGINOUS AREAS OF FEET.	 EPIDERMOPHYTON INGUINALE
BARBAE	 LESIONS MAY BECOME LARGE AND IRREGULAR WITH FORMATION OF LUMPY SWELLINGS.	 TRICHOPHYTON GYPSEUM MICROSPORON LANOSUM
FAVOSA	 SELDOM SEEN IN U.S.	 TRICHOPHYTON SCHOENLEINI T. GYPSEUM T. VIOLACEUM
VERSICOLOR FLUORESCENT IN WOOD'S LIGHT	 DISEASE OF SUPERFICIAL LAYERS OF SKIN OF UPPER TRUNK AND LOWER NECK.	 MALASSEZIA FURFUR
ERYTHRASMA	 TENDENCY TO LOCALIZE IN AXILLARY CRUROGENITAL AND INTERTRIGINOUS AREAS.	 ACTINOMYCES MINUTISSIMUS
UNGUIUM	 RINGWORM OF NAILS OFTEN ASSOCIATED WITH FUNGUS INFECTION OF HANDS AND FEET.	 TRICHOPHYTON PURPUREUM ALSO TRICHOPHYTON GYPSEUM

	DISEASES OF SIMILAR APPEARANCE	THERAPY
	CONTACT DERMATITIS PUSTULAR BACTERID MUCOUS PATCHES OF SECONDARY SYPHILIS PSORIASIS NEURODERMATITIS	NON-INFLAMMATORY CONDITIONS 1 RELIEF OF PRURITIS BY OINTMENTS, CREAMS, OR LOTIONS 2 SEDATION IN SEVERE CASES INFLAMMATORY CONDITIONS 1 BED REST FOR SEVERE INFLAMMATION, WET DRESSINGS AT FIRST THEN SOOTHING LOTIONS 2 DRYING PASTE 3 ASEPTIC OPENING OF VESICLES 4 CONTROL SECONDARY INFECTION 5 KERATOLYTICS 6 X-RAY (FRACTIONAL DOSAGE)
	ALOPECIA AREATA SYPHILITIC ALOPECIA SEBORRHEIC DERMATITIS	NON-INFLAMMATORY CONDITIONS 1 X-RAY EPILATION 2 MANUAL EPILATION 3 SPRAYING OF ASTEROL ON SCALP 4 APPLICATION OF OINTMENT INFLAMMATORTY CONDITIONS 1 WET DRESSINGS 2 MANUAL EPILATION UNDER WOOD'S LIGHT 3 MILD FUNGICIDAL POWDERS, SOLUTIONS, OR OINTMENTS 4 USE OF ESTROGENS SYSTEMICALLY
	ECZEMA SEBORRHEIC DERMATITIS PITYRIASIS ROSEA	1 TREATMENT IS SIMILAR TO TINEA PEDIS TAKING CARE TO AVOID IRRITATION ON MORE SENSITIVE BODY SURFACES 2 INFILTRATED LESIONS SHOULD HAVE THE APPLICATION OF HOT AQUEOUS DRESSINGS
	INTERTRIGO SEBORRHEIC DERMATITIS NEURODERMATITIS	NON-INFLAMMATORY CONDITIONS 1 APPLICATION OF FUNGICIDAL AGENTS, OINTMENTS, SOLUTIONS AND POWDERS INFLAMMATORY CONDITIONS 1 SITZ BATHS FOR 20 TO 30 MINUTES 2 WET COMPRESSES 3 APPLICATIONS OF GENTIAN VIOLET SOLUTIONS
	DRUG ERUPTIONS BACTERIAL INFECTIONS CONTACT DERMATITIS	NON-INFLAMMATORY CONDITIONS 1 X-RAY EPILATION, NO SHAVING OF INFECTED AREAS 2 WET APPLICATIONS 3 FUNGICIDAL OINTMENTS INFLAMMATORY CONDITIONS 1 MANUAL EPILATION OF INFECTED HAIRS UNDER WOOD'S LIGHT EVERY 3 DAYS 2 WET DRESSINGS
		SCALP 1 REMOVAL OF CRUSTS, DEBRIS AND INFECTED HAIRS AFTER SOFTENING WITH OINTMENT GLABROUS SKIN 1 SOFTEN CRUSTS WITH OIL APPLICATIONS OR WET DRESSINGS, THEN TREAT AS TINEA CORPORIS
	ORDINARY FORM NOT EASILY CONFUSED WITH OTHER DISEASES PSEUDO-ACHROMIA MAY BE MISTAKEN FOR OTHER FORMS OF ACHROMIA	1 DAILY HOT BATH WITH LIGHT SCRUBBING OF AFFECTED AREA WITH A SOFT BRUSH 2 DAILY APPLICATION OF SOLUTION TO AFFECTED AREAS DURING INFECTION AND FOR ONE WEEK AFTER NEGATIVE FINDINGS, THEN WEEKLY FOR ONE MONTH 3 DAILY APPLICATION OF FUNGICIDAL OINTMENTS
	TINEA CRURIS	SAME AS TINEA VERSICOLOR
	PSORIASIS	1 REMOVAL OF AS MUCH OF THE INFECTED NAIL AS POSSIBLE 2 BURN INFECTED MATERIAL 3 ROUGHING OF NAIL AND APPLICATION OF OINTMENT 4 APPLICATION OF SOLUTION ON SKIN SURROUNDING INFECTED NAIL

is applied at night. The head should be covered after the treatment. Cure, when attained, is usually seen in about 8 weeks. It was noted in several patients who were cured that an inflammatory reaction developed. In these cases a cure was attained in somewhat less time, about 6½ weeks.[57] It should be pointed out that Asterol should not be used in children under 3 years of age. Certain neurological symptoms have been observed in younger children on whom Asterol had been used.[59,60,61]

A new compound, tetrachloroparabenzoquinone, has shown effectiveness *in vitro* and *in vivo* against most superficial fungus parasites of man.[62,63] The usual concentration used in ointment form has been 10 per cent, but against *M. audouini* a 30 to 50 per cent ointment must be used. This compound is available for experimental use as Spergon.[64]

Therapy of Inflammatory Type

Therapy of the inflammatory type of infection is not as drastic since the infection is less resistant. Roentgen epilation is contraindicated.[12,13,65] The initial treatment should be concerned with a reduction of the inflammation by means of wet dressings, as discussed under tinea pedis. Manual epilation should be undertaken under Wood's light to remove involved hairs. Spontaneous cures usually occur even without treatment since the inflammatory reaction causes the subsequent loss of the infected hairs.

Mild fungicidal ointments, powders, or solutions are thus sufficient treatment in this form of tinea capitis. Preparations containing salicylanilide,[53] undecylenic acid and/or its copper and zinc salts,[31] caprylates,[32] propionates[33] and combinations of these and/or other fatty acids of low molecular weight are effective.[8,66,67] Other mild fungicides, such as Ammoniated Mercury Ointment U.S.P. and 5 per cent sulfur ointment (the U.S.P. sulfur ointment is 10 per cent) may also be used.

Podophyllum resin has been tested as a fungicide but, at the present time there is conflicting evidence as to its effectiveness.[68,69,70]

A new approach to the therapy of ringworm of the scalp has been the use of estrogens. It was noted[11] that the amount of fatty acids (7-13 carbons) on the scalp of children at puberty increased about five-fold. At puberty ringworm of the scalp undergoes involution and cure in children so affected. It is probable that these fatty acids found on the scalp are fungicidal. It is also probable that the increase in the amount of these acids present on the scalp is influenced by the marked increase in sexual hormones circulating in the blood at puberty. Thus, several workers have attempted to use estrogen therapy in the treatment of tinea capitis. Locally estrogens were not found to be effective,[71] but when used systemically along with local salicylanilide therapy they may have some use.[72] Doses of 10,000 to 20,000 units per week were given subcutaneously for not more than 6 weeks. Loosening of the hair was increased, suggesting that this therapy may be useful when x-ray epilation is contraindicated.

A recent study on 109 patients with established infections of the scalp by *M. audouini*[73] revealed that within 3 to 4 years 74 per cent of the patients, who had received what is generally considered adequate treatment (x-ray epilation and a fungicide for at least 3 months), had been cured. On the other hand, 68 per cent of those who had received little or no treatment were also cured within the same period. It is results such as this which have caused some workers to wonder whether or not remissions of superficial fungus infections occur as readily without treatment as with the present methods of therapy.

Tinea Corporis has also been designated by various other names, including tinea circinata, tinea trichophytina, tinea glabrosa, trichophytosis corporis, and ringworm of the body. The organism most

commonly involved is *Microsporon lanosum*, but other Microsporon or Trichophyton may be the causative agents. The condition occurs most frequently in children, with mothers whose children already have the infection exhibiting the next highest incidence. It is not uncommon to find the condition associated with t. capitis. The initial infection is frequently obtained from animal pets.

The lesions appear on any part of the glabrous skin and tend to be asymmetrically distributed. There may be one or many erythematous lesions which spread peripherally and clear in the center producing the characteristic raised annular border, which is often vesicular in character. Burning or pruritis may be present. In chronic infections the lesions show less clearing in the center. In some cases the infection may invade the deep layers of the skin, forming a granuloma. This latter type may have a seropurulent or mucopurulent discharge.

This condition may show some similarity to eczema, seborrheic dermatitis, or pityriasis rosea. In all cases, diagnosis should depend upon observation of the fungus in scrapings and cultures.

The Therapy for tinea corporis varies little from that discussed under tinea pedis for the same types of lesions. However, it must be borne in mind that the skin on the body surfaces is usually not as toughened or keratotic as that on the feet. Therefore, greater care must be taken to avoid irritation. Less concentrated forms of some of the medications may be necessary. Wet dressings and lotions may be applied when inflammation is present. In the non-inflammatory or post-inflammatory cases the various fungicidal agents discussed under tinea pedis have been used in the same manner in the treatment of ringworm of the body.

Where the lesions are greatly infiltrated it is necessary to apply occlusive hot aqueous dressings for several days. This is accomplished by applying to the area several thicknesses of gauze soaked in a hot aqueous solution of resorcinol, 3 per cent. The gauze is covered with waxed paper or plastic and allowed to remain overnight. During the day this is also repeated several times for two-hour intervals. Convalescence is sometimes hastened by radiotherapy in two doses of epilation strength, at 10-day intervals.

Tinea Cruris As the name implies, tinea cruris usually appears on the groin although occasionally the axillae and the intertriginous areas of the feet are involved. The names commonly applied to this condition are eczema marginatum, epidermophytosis cruris, jock itch, dhobie itch, red flap, and ringworm of the groin.

Usually caused by *Epidermophyton inguinale*, the disease is most frequently found in men, involving the upper inner surfaces of the thighs. Strangely enough, only one groin is usually affected. As the condition progresses it may spread to the scrotum and to the perianal region. The lesions are erythematous with a crusty scaling. They may also be vesicular. As the disease spreads down the thigh there is usually some clearing in the center with the bottom border showing a well-defined edge. A moderate degree of pruritus frequently accompanies this condition.

An aid in the diagnosis of this condition is found in that it attacks the stratum corneum but not the hair. It must be differentiated from such conditions as intertrigo, seborrheic dermatitis, and neurodermatitis. However, no fungus is found in these latter conditions. In addition, intertrigo lacks the pronounced border, seborrheic dermatitis possesses a uniform, smooth, red surface, and neurodermatitis is associated with a characteristic case history. Erythrasma and moniliasis may resemble tinea cruris but microscopic examination reveals different fungi.

Epidemics of tinea cruris are not uncommon in camps, schools, and military training establishments.

Therapy Particular care must be used in the treatment of infections in this area of the body for irritation and inflammation develop quite readily. In the acute inflammatory manifestations sitz baths containing approximately 1:40,000 potassium permanganate solution or 45 cc. of Coal Tar Solution N. F. to one-half tub of warm water are effective for drying exudative surfaces.[39] The body should be soaked for 20 to 30 minutes. Compresses of saturated boric acid solution or Burow's solution (1:15), or applications of a 1 per cent aqueous gentian violet solution, are also beneficial in the acute inflammatory stage.

In the non-inflammatory or post-inflammatory stage fungicidal agents may be applied. The following formula has been recommended, if it is tolerated. If irritation should occur the preparation should be discontinued and zinc oxide ointment or calamine lotion or non-irritating tar preparations tried.[75]

Resorcinol	3.0
Salicylic acid	3.0
Benzoic acid	6.0
Benzoin Tr. q.s.	100.0[12]

Calamine Lotion will also make a good vehicle for resorcinol in a concentration of 3 to 12 per cent. The strength is usually started low and gradually increased as it may be tolerated.

Ointments such as the following may be employed:

(a)	Salicyclic acid	3.0-6.0
	Sulfur	3.0-6.0
	Petrolatum q.s.	100.0
(b)	Resorcinol	3.0-12.0
	Zinc Oxide Oint. U.S.P. q.s. ad.	100.0[11,12]
(c)	Salicylic acid	3.0
	Sulfur	3.0
	Aquaphor q.s. ad.	100.0

The non-irritating characteristics of the undecylenates, propionates, and caprylates make them particularly applicable in this condition. Sometimes it may be more effective to alternate an ointment of this type with half-strength Whitfield's ointment. Most of the proprietary fungicidal ointments, powders and solutions discussed under tinea pedis may be effectively employed in this condition also.

Tinea Barbae is a condition not often seen but which should not be overlooked. It is also known by the names tinea sycosis, trichophytosis barbae, barber's itch, and ringworm of the beard. The causative agent is usually *Trichophyton gypseum* although *Microsporon lanosum* and other Trichophyton may be involved. The disease usually occurs as the result of an infection acquired from a domestic animal or from infected barber's instruments.

An inflammation begins in sharply localized, scaly, pustular patches. These lesions spread peripherally and tend to clear in the center. In some cases the lesions may become large and irregular with the formation of lumpy swellings. Within the infected area the hairs epilate easily.

Tinea barbae should be differentiated from such conditions as drug eruptions, bacterial infections, and contact dermatitis by microscopic examination and culture.

Therapy The treatment of tinea barbae is essentially the same as that for tinea capitis. The inflammatory type is best treated with manual epilation of infected hairs under Wood's light every 3 days and with wet dressings. Potassium permanganate solution 1:10,000, Burow's solution 1:15, or acriflavine solution 1:20,000 may be applied as wet dressings.

In the non-inflammatory form of the infection x-ray epilation may be used carefully. The infected area should not be shaved. Fungicidal ointments containing salicylanilide, undecylenates, propionates, caprylates, anthralin and similar fungicides may be used between wet applications or alone in mild infections. An ointment containing 10 per cent ammoniated mercury in petrolatum or half-strength

Whitfield's ointment may also be effectively employed.

Tinea Favosa is not considered by some as a distinct disease. It occurs mainly on the scalp but may also be found on the glabrous skin. Early lesions resemble those of early tinea capitis or tinea corporis except that they may be more crusty. Later the lesions develop very thick, elevated crusts which, when removed, leave red, shiny, suppurating cups. The lesions may give off a "damp straw" or "mousy" odor.

This disease, seldom seen in the United States, has also been called favus, crusted ringworm, honeycomb ringworm, and porrigo scutula. The most common causative agents are *Trichophyton schoenleinii*, *T. gypseum*, or *T. violaceum*.

Therapy The crusts (scutula), debris and infected hairs should be removed after softening with a 10 per cent salicylic acid ointment in petrolatum or with an oil such as liquid petrolatum. After the crusts have been removed the infection should be treated the same as for tinea capitis. When the infection is on the glabrous skin the crusts may be softened with oil applications or with wet dressings and then treated in the same manner as for tinea corporis.

Tinea Versicolor (pityriasis versicolor, chromophytosis dermatomycosis furfuracea) and erythrasma are fungus diseases of the most superficial layers of the skin. Both conditions are characterized by fairly large, red to brown lesions showing some scaliness but usually no clearing in the center. They are almost asymptomatic except for a slight pruritis. The color of the lesions is often darker in summer than in winter. The eruption has the unique characteristic of being fluorescent under Wood's light.

Tinea versicolor infects the upper trunk and lower neck and erythrasma the axillary, crurogenital and intertriginous areas.

Therapy A hot bath should be taken at least once a day during which the affected area should be scrubbed lightly with a soft brush. A 10 per cent solution of sodium thiosulfate should then be applied to the affected and surrounding areas.[12] After the microscopic scrapings have become negative treatment should be continued daily for one additional week and then weekly for one month.

The daily application of fungicidal ointments such as the fatty acid ointments, half strength Whitfield's ointment, Asterol,[35] or others also aid in recovery. Mild erythema doses of ultraviolet rays will also accelerate recovery.[36] Wood's light is useful in revealing areas requiring treatment.

Tinea Unguium, also called ringworm of the nails or onychomycosis, is often associated with fungus infections of the hands and feet. It is most commonly caused by *Trichophyton purpureum*. The infection always begins peripherally with a loss of lustre of the nail followed by some degree of thickening and increased friability of the nail. An accumulation of material under the free edge of the nail is usually evident. The toe nails are most frequently involved.

Psoriasis is often a close mimic of ringworm of the nails. Psoriasis may sometimes be differentiated by a characteristic pitting of the nails but it is often necessary to rely upon more typical lesions of psoriasis elsewhere or upon the presence or absence of fungi in scrapings from the involved tissue.

Therapy Although tinea unguium infections are usually caused by *T. purpureum*, they are also sometimes caused by *T. gypseum*. The former is much more resistant to treatment than the latter.

Treatment involves removal of as much of the infected nail as is possible, using a scalpel or by abrasion. The infected material removed should be burned. Complete removal of the infected nail is not indicated unless all three of the following are true:[12]

(a) The infection is caused by *T. pur-*

pureum.

(b) Three or less nails are involved.

(c) There is no active dermatomycoses elsewhere on the hands or feet.

The nail should be roughened by scratching with a sharp object, such as a nail file or scalpel, before the application of an ointment or other medication. The skin immediately surrounding the infected nail should be protected by applying benzoin tincture or collodion. Among the preparations used in the treatment of this condition are Whitfield's ointment or:

Salicylic acid	5.0
Sulfur	10.0
Lanolin	
Petrolatum aa q.s. d.	100.0

The strength of these ointments is sometimes increased to as much as twice the above when the causative agent is known to be *T. purpureum*. The ointments may be rubbed into the infected nail or applied in the form of a plaster. Other helpful preparations are:[12]

(a) Salicylic acid plaster 40 per cent This is cut to fit the size of the nail and applied.

(b) Chrysarobin 1 per cent
Chloroform q.s.

(c) Chrysarobin 20 per cent
Collodion q.s.

Great care should be taken in the use of the above three preparations as they are extremely irritating.

Ammoniacal Silver Nitrate Solution N.F. has given good results when applied to the nails once a week. It is particularly effective since, besides being directly fungicidal, it is able to penetrate keratin fairly readily. This agent seems to be better than any other treatment for this condition.[7,8]

It should be borne in mind that at best the treatment of all of the superficial fungus infections is a prolonged procedure. The inadequacy and uncertainty of present methods of treatment is reflected by the multiplicity of drugs which have been recommended and are available for use.

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Physical Medicine And Rehabilitation In Traumatic Conditions

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During the past few decades, there has developed in this country a serious trend toward progressively increasing incidence and severity of acute trauma. Heightened warfare, development of faster and more powerful automobiles and aircraft, extensive mechanization of industry and agriculture and increased national participation in athletics and sports are some of the factors which may be implicated in development of this trend. It has already produced a severe problem of medical and socio-economic significance.

In a recently published Symposium on Trauma,[1] Dr. Aitken, Clinical Professor of Orthopedic Surgery at Tufts, said "Great advances have been made in recent years in the treatment of acute trauma. This progress has been due in part to the stress placed on adequate first aid and competent transportation of the injured. The longest strides, however, have come through new techniques in the surgical handling of various traumatic lesions, aided immeasurably by the discovery of the antibiotic drugs. But, with all these advances, have our end results improved appreciably? Doubt is cast upon this point when one realizes that of 1,952,000 people injured in industry in the United States in 1950, about 84,000 have some degree of permanent disability. Further estimates indicate that some 2,000,000 persons disabled as a result of injury or disease could be rehabilitated and placed in gainful employment".

In Speaking of Surgical Training Dr. Aitken goes on to say "nowhere in the over-all picture is emphasis laid upon the importance of aftercare. Nowhere does a profound appreciation appear of the problems that confront a patient. We in medicine are apt to feel that, once the wound is healed and the fracture united, we have done our job. If we have done a fine surgical job, we believe a good result must ensue. Nothing could be farther from the truth. Responsibility to the patient does not end with the healing of surgical wounds—in fact, the real difficulty may then begin. Failure to recognize the importance of adequate aftercare of trauma represents a basic weakness of modern day medicine. To those interested in the field of trauma, the aim should be the restoration of the injured to self-sufficiency or gainful employment at the highest level of attainable skill in the shortest possible time. This should be the concept of rehabilitation".

The level to which rehabilitation may be successfully carried depends basically upon the nature, severity and extent of the

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trauma and the adequacy of first aid and transportation techniques instituted. Secondly, it depends on the competence of the definitive surgical care. Finally, it depends upon the adequacy of convalescent and aftercare, including physical medicine, psychosocial, educational and vocational retraining. These factors are mutually interdependent. Good definitive surgical care does not obviate the intelligent and adequate use of physical medicine nor can good physical medicine correct the mistakes of improper emergency aid or inadequate surgical handling of the problem presented.

Good Physical Medicine is an essential part of the program of adequate care of traumatic conditions. It cannot be successful if it is prescribed without an appreciation of the pathologic physiology present or the mode of action and physiologic effect of various physical agents. Nor can it be successful if inadequately prescribed and supervised by the physician or carried out by an unqualified or unsupervised lay-technician. Very few physicians would ask a nurse to "give Mr. Jones some digitalis", yet many ask a technician, with less background, to "give Mr. Smith some heat or whatever you think is necessary".

The Pathologic Physiology of Trauma The local effects of trauma are widespread in terms of alterations produced in many tissues and structures. Although the bony component of severe trauma is often most dramatic and receives the most attention, it is obvious that the force sufficient to fracture a bone is more than sufficient to seriously damage the soft tissues surrounding it.[2] Altered function and pathology are produced in skin, subcutaneous tissue, connective tissue, i.e., fascia, tendon, muscle, blood vessels, lymphatics, peripheral nerve, bursae and joints, among others. The initial effects of trauma[3] include capillary dilatation and stasis. This is followed almost immediately by margination and emigration of leukocytes. Increased permeability of the dilated capillaries results in extravastion of plasma and cells into the damaged tissues. Frank bleeding into tissue frequently results in more vascular areas or with increased severity of the trauma. Lymphatics become occluded which adds to the passive mechanical force towards extravasation and stasis. The resultant edema produces pain, swelling and dysfunction. Within 12 to 24 hours exudation beings and polymorphonuclear leukocytes and later monocytes invade the zone of injury. The exudative phenomenon reaches its height within 48 hours. The duration, amount and cellular character of the exudate will vary with the location of the injury, amount of tissue destroyed and the presence or absence of infection or foreign body.

Repair is the second phase of reaction to injury. It is characterized by poliferation of fibroblasts and new vessel formation. This phase is extremely important for if the extravasated blood and tissue fluid cannot be absorbed it becomes organized. This is frequently the case in traumatic conditions where venous and lymphatic efficiency is impaired by passive mechanical factors and by active muscle spasm and inactivity. Murray[4] has pointed out that organization is well begun within 72 hours and progresses rapidly. He stated that "in the first 5 to 10 days a large proportion of this exudation and infiltration can be removed from the part, before it can undergo organization, by any mechanism which will restore the normal circulatory efficiency of the part". As will be seen later, this has extremely important implications in terms of proper use of physical medicine. If organization is extensive and proceeds to completion, the development of firm fibrous adhesions and scar tissue produces a severe chronic mechanical block resulting in protracted vascular inefficiency, decrease in range of motion, muscle atrophy and edema with all of the attendant clinical disability.

Watson-Jones[5] in discussing this problem has cleverly referred to edema as "glue". It cannot be over emphasized that persistent edema during immobilization is one of the greatest causes of prolonged disability following trauma.

In addition, trauma results in varied general effects both organic and psychologic, if immobilization must be carried out for some time. These include deconditioning of normal parts, adverse circulatory adjustment to the erect position as evidenced by dizziness, weakness, tachycardia and occasionally nausea and vomiting. Depression, loss of motivation and emotional lability may be noted. It must be stressed that these factors may be aggravated by existing unrealistic compensation laws or other facets of compensable disability.

Physical Treatment The objectives of nad indications for the use of physical medicine in trauma include:

1. Relief of pain and muscle spasm
2. The early absorption of hemorrhage and exudate
3. The development of circulatory efficiency
4. Prevention and/or correction of edema
5. Improve muscle function in terms of strength, endurance and coordination
6. Maintain range of motion in joints or correct limitation of range if it occurs
7. Evaluate and treat problems of peripheral nerve dysfunction
8. Prevent deconditioning
9. Train patients in terms of self care, ambulation and other daily activities with or without crutches and appliances
10. Provide for total socio-economic and vocational rehabilitation to the highest level possible and in the shortest time.

In order to accomplish these objectives a wide variety of physical agents and techniques are available to the physician. These may be grouped, for the sake of convenience, into several broad categories.[6] These include:

1. Heating agents (thermotherapy)
2. Mechanotherapy
3. Therapeutic exercise
4. Electric stimulation (electrotherapy)
5. Rehabilitation techniques

It would be manifestly impossible to adequately discuss these varied agents and techniques within the scope of this paper. A very brief presentation of some highlights I feel are important will be made.

1. *Heat* is of help in relieving pain, increasing arterial blood flow to the part and decreasing muscle "spasm". Superficial heating devices include dry forms of heat such as luminous and infrared. Moist heat can be obtained from the application of hot packs, paraffin, "moist-aire", whirlpool bath or Hubbard tank. Deeper heating effects may be gained through the use of electric field or electromagnetic induction techniques of short wave diathermy. Microwave may also be used for deep heating effects. Moist heat may be preferable and better tolerated in some situations such as sprains, strains and contusions. Most of these heating techniques will usually produce sedative effect, particularly the superficial ones. The vascular effect of increased arterial blood flow and vasodilation is usually achieved in twenty to thirty minutes. It is essential to remember, however, in light of our previous discussion of pathology, that in many situations venous and lymphatic return are impaired and inadequate. Heat, if used alone, will tend to increase congestion and edema and increase the pain and disability. This fact is commonly overlooked in therapy, leading to many poor results. The application of heat in most traumatic conditions should be followed by massage, elevation or active muscle contraction or any combination of these techniques. With metallic fixation frequently required in

fractures, in the presence of impaired circulation diathermy can produce superheating of the metal with resultant local tissue damage.

2. *Massage* is one of the most useful techniques in the category of mechanotherapy. It can be sedative or stimulative in effect, depending on the technique employed. It is useful in removing detritus from the skin, aiding venous and lymphatic return, breaking down adhesions in soft tissue and mobilizing scar tissue. Massage, in itself, will not prevent muscle atrophy. Adapted arts and crafts, as utilized in occupational therapy, can assist in reaching the objectives of treatment previously noted. It should be primarily functional. If it is good functional therapy, it will also be good diversional activity for the patient. It should be remembered that "Action Absorbs Anxiety".

3. *Therapeutic Exercise* may be passive, assistive, active or resistive. It is one of the most important aspects of the program of physical treatment yet it is generally overlooked or improperly used. Passive exercise is indicated in maintaining range of motion where active muscle contraction is not possible or is contraindicated. Assistive exercise is helpful for paretic muscle groups. Free active exercise is necessary to the maintenance of muscle tone and strength and for the maintenance of normal return vascular mechanisms. It should be used whenever possible and in the steps of recovery may readily blend with or follow the use of passive and assistive techniques. Resistive exercise is necessary in attempting to hypertrophy muscle and increase its strength.

4. *When peripheral nerve injury* occurs as part of a traumatic situation, physical agents are essential in management. The electronic "square wave" is employed to measure strength duration curve, galvanic-tetanus ratio, rheobase, chronaxie and other physiologic data of diagnostic and prognostic significance. Needle Electromyography can furnish invaluable information regarding the state of innervation or denervation of motor units, also of great significance in diagnosis and prognosis. If denervation has occurred electrical stimulation with a low frequency sine wave is indicated to prevent atrophy. Treatment must be intensive and comprehensive if good results are to be achieved. Development of maximal tension within the muscle daily is essential.

5. *Rehabilitation techniques* include those of gait training in parellel bars, training with crutches, splints, braces and prostheses, etc. Hand activities, toilet and traveling activities must be taught. It cannot be assumed that the patient will learn these, on his own. Self care should be an early goal in physical restoration. Social, psychiatric, economic, educational and vocational evaluation and retraining must be integrated early and continuously. Only by proper utilization of these techniques can the final goal of economic independence be achieved for the seriously disabled injured patient.

The surgeon is frequently faced with the dilemma of immobilization and mobilization at the same time. It is essential that he solve this problem by the intelligent use of Physical Medicine and Rehabilitation in the management of traumatic conditions.

Again, time prevents a detailed account about just where in the course of recovery each agent should be utilized. It is hoped that this brief discussion of basic factors will serve as a basis for adequate consideration of the details by the physician.

Summary

1. The pathologic physiology of trauma was briefly presented.

2. Some considerations in the use of physical agents in trauma were discussed.

3. It is suggested that a greater appreciation of the use of Physical Medi-

cine and Rehabilitation in traumatic conditions will assist the physician in the successful management of these difficult but important and ever increasing clinical problems.

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4200 East Ninth Avenue

Enjoy Yourself in Europe; Health Problems Minor

So you're going to Europe.

Well, go and have fun, and don't worry about your health. For, if you follow a few, simple, time-tested rules and suggestions, you can have a happy, healthy trip, according to Dr. E. O. Nichols Jr., Plainview, Texas.

Health questions which may arise regarding a European trip and their solutions were given by Dr. Nichols in a recent *Today's Health* magazine. The conclusions were based on Dr. Nichols' own experiences during a three-month trip through nine European countries.

Before departing for Europe, it is necessary to have a smallpox vaccination, as the United States demands a certificate indicating that you have been vaccinated within three years of your reentry into the country. He also recommended immunization against typhoid and paratyphoid and immunization of children against diphtheria.

Have your physician aid you in preparing a small medical kit before leaving on your trip. Included in the kit should be a pain-killer such as aspirin, a mild sedative, a motion sickness preventive, a preparation to alleviate food poisoning or eating indiscretions, and one of the major antibiotics to counteract any real infection which may occur.

"If you have any physical disability or a medical past that might become a clinical future, be certain you get a transcript of your record from your doctor," Dr. Nichols said. "It might prove invaluable, especially in places where English is poorly understood; for the written language of medicine is almost international, and much easier to understand than your own halting explanation."

A thorough physical examination prior to leaving also was recommended by Dr. Nichols, as was the taking of an extra pair of dentures and glasses.

There is little medical preparation necessary for the time in transit to Europe he stated, as boats have first-class health facilities. If you have a heart condition check with your physician before planning to fly to your destination.

For any real illness that occurs while in Europe, use caution in obtaining medical care, Dr. Nichols stressed. The United States consul will be able to direct you to a well-trained physician. If a specialist is needed, you should ask your doctor to call in one of the professors at a nearby university for consultation.

Europe's pharmacies contain not only most American products, but also are loaded with a wide variety of excellent European ones, he stated, adding:

"Hence, do not worry, satisfactory medical care is always available to the traveler in Western Europe."

Gastro-Intestinal Manifestations of Urogenital Origin

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Many patients have been sent out of doctors' offices after a complete work-up for gastro-intestinal diseases, as neurotic, or have received aimless or indifferent treatment with persistence of their symptoms when in reality they were suffering from a pathological condition of the genito-urinary tract.

Many physicians are not aware that lesions of the genito-urinary system often produce gastro-intestinal symptoms which may be the only evidence of disease present in the urogenital tract, urinary symptoms being completely absent and the urinary findings and physical examination negative. There appears to be a transfer of symptomatology.

The impression that clear urine means freedom from urinary tract pathology has resulted in tragic consequences in many instances. A patient with abdominal distress and a normal urine is very often subjected to an appendectomy or abdominal exploration before the genito-urinary tract is investigated as the cause of his symptoms. In the absence of definite findings in cases of obscure abdominal distress, it is wiser to subject the patient to investigation of the genito-urinary tract than to a major operation. Cystoscopy and intravenous and retrograde urography are harmless procedures and easier and more efficient ways of approaching the problem than by surgical exploration.

Since this simulation of intraperitoneal pathology by lesions of the genito-urinary tract is not fully appreciated by the general medical profession, and since there seems to be a fairly high incidence of such cases in our routine urological practice, we believe this to be a beneficial subject for discussion.

Most Urogenital Diseases are associated with some enteric symptoms. The patient with a ureteral stone experiences nausea and vomiting, abdominal distension due to paralytic ileus, and often spasm of the abdominal muscles on the affected side. Pyelonephritis can produce the same symptoms. The patient subjected to cystoscopy, ureteral catheterization or retrograde pyelograms usually experiences lower quadrant cramps and may vomit if the renal pelves are over distended. The localization of the pain and the urinary abnormalities in the acute urological diseases over-shadow the enteric symptoms and help make the correct diagnosis. Thus in acute infection the symptoms of cystitis, frequency, urgency, burning, focus attention upon the urinary tract. In other cases, however, and particularly in dealing with chronic urogenital disease the typical renal and ureteral pain and symptoms of vesical irritability are often absent. In many cases

we are left with vague abdominal symptoms as the only expression of urogenital abnormality.

There are several reports in the literature on the frequency with which lesions in the genito-urinary tract are associated with gastro-intestinal manifestations. Misinterpretation of the latter by leading the physician to focus his attention upon the intraperitoneal organs has resulted in too many instances in the performance of abdominal operations without relief of symptoms. Cecil,[1] reviewing 300 cases of urinary tract disease, found abdominal pain in 183 cases, and that 20% of the whole series had had previous abdominal operations without benefit. Beck[2], in a study of 284 private patients, found 151 with gastro-intestinal symptoms, and in 85 they were the chief complaint. In his series, 207 operations had been performed prior to urological study. In 137 cases, operation was performed on the abdominal organs, which included 58 appendectomies with no relief in 31 cases, 48 pelvic operations with no relief in 26 cases, 9 gall bladder operations with no relief in 2 cases, 2 operations for gastric ulcer with no relief in 1 case and 6 exploratory laparotomies with no relief in any case. Morrissey,[3] in a study of 177 cases of nephroptosis, found digestive tract symptoms in 68. Mertz,[4] in reviewing some cases of urinary calculi, found that 27% had previously had an appendectomy, without relief. Other writers have reported cases of renal lithiasis which produced severe abdominal and peritoneal phenomena suggesting ileus. Lowsley and Twinem[5] found that in a group of 84 urological cases, 39 had undergone major surgical operations without relief of symptoms, and 31 had had their appendix removed. The referral of renal pain to the anterior abdomen is particularly common in children. Campbell[6] has reported upon 29 children with hydronephrosis of the right kidney due to ureteral stenosis who were assumed to be suffering from "chronic appendicitis". Fifteen of these children had lost their appendices without benefit. Hartsock[7] found that 30 per cent of patients with lesions of the kidneys and ureters have associated gastro-intestinal symptoms, and from 18 to 20% have had abdominal operations without relief. Hunner found that in 100 cases of ureteral stricture, 30 had been subjected to appendectomy. He has frequently commented on the multiplicity of post-operative scars to be seen on the abdomen of women with ureteral stricture. Portis and Grove,[8] and others, have stressed the production of digestive symptoms from urethral stricture, prostatitis and seminal vesiculitis, and emphasize the fact that women with pathological changes in the urethra frequently show gastro-intestinal manifestations. The elderly male with an hypertrophied prostate and chronic urinary retention may give a picture similar to intestinal obstruction.

Smith and Orkin[9] have written a very comprehensive report on the reno-digestive reflex. In a series of 487 urological cases, they found 50 or 10.2% diagnosed as gastro-intestinal lesions on the basis of routine history and physical examination, but urological study showed this to be erroneous, and an upper urinary tract lesion was proven. The true urological conditions causing this mimicry of digestive tract lesions included — hydronephrosis, ureteral calculus, nephroptosis, renal calculus and hydro-ureter. They were impressed with frequent occurrences of negative findings in the physical and urinary examinations in about 50% of the cases. Fifteen were referred to the urological service only after a previous exploratory laparotomy had shown no intestinal lesion, and the symptoms persisted. Ten cases were referred after a flat plate of the abdomen was done for fluid levels, and was negative for intestinal obstruction. Right sided lesions were three and one-half times as frequent as

left sided lesions. Twenty-seven or 54% of these 50 cases had had an abdominal operation, and 23 or 46% were not improved by the operation. In 6 cases, the gastro-intestinal complaint was on one side and the urinary lesion on the other. In the majority of their cases, right renal lesions gave gastric, biliary or appendiceal symptoms, and left renal lesions gave large bowel symptoms. Other writers[10,11] have stressed the high incidence of cases with gastro-intestinal symptoms, absent urinary symptoms, normal urinary examinations and definite urologic pathology.

Since unfortunately many cases of hydronephrosis present no definite symptoms referable to the kidney until infection supervenes, digestive symptoms play an important diagnostic role. But any ureteral or renal lesion which is accompanied by an accumulation of urine, pus or blood in the peri-ureteral or perirenal space, causing an irritation of the posterior parietal peritoneum, may simulate intestinal obstruction or peritonitis—such phenomena have been observed following perinephritic abscess, spontaneous perirenal hemorrhage, traumatic rupture of the kidney with retroperitoneal effusion of the hemorrhage, and extra-peritoneal rupture of a hydronephrosis. Patients with acute and chronic inflammatory lesions such as prostatitis and vesiculitis also often complain of digestive symptoms. Rare kidney lesions likely to produce abdominal in place of urinary symptoms, are septic infarction of the kidney (occurring with mitral stenosis), and carbuncle of the kidney from a metastatic staphylococcic infection.

The Commonest Gastro-Intestinal Symptoms produced by urological pathology are: epigastric distress, diffuse abdominal pain, lower quadrant pain, right or left, nausea and vomiting, gaseous eructations, regurgitation, heartburn, anorexia, constipation, diarrhea and abdominal distension. According to Abeshouse[10] these manifestations of the reno-digestive reflex can be classed into five groups:

1. Gastro-duodenal
2. Biliary
3. Appendiceal
4. Colonic, and
5. Peritoneal.

In the gastro-duodenal group the symptoms are suggestive of gastric or duodenal ulcer, pylorospasm, duodenal ileus, carcinoma of the stomach, hyperacidity and gastric neurosis. Post-prandial pain, epigastric distress, heartburn, regurgitation, nausea and vomiting are the chief symptoms. The most frequent urological conditions producing this type of symptoms are hydronephrosis, nephroptosis, and ureteral calculus.

In the biliary group the symptoms are suggestive of acute and chronic cholecystitis with or without stones, hepatitis and acute catarrhal jaundice. The chief symptoms are pain in the right upper quadrant with or without radiation to the back and shoulder, epigastric pain, flatulence, gaseous eructations, abdominal distension, nausea and vomiting and occasionally jaundice. The most frequent urological conditions accounting for these symptoms are hydronephrosis, nephroptosis, ureteral calculus, perinephritic abscess, pyonephrosis, renal tumor, nephrolithiasis and carbuncle of the kidney, all on the right side.

In the appendiceal group the symptoms suggest acute or chronic appendicitis, and the chief ones are right lower quadrant pain, peri-umbilical pain, nausea and vomiting, and anorexia. Ureteral calculus, ureteral stricture, nephroptosis, hydronephrosis and hydro-ureter, seminal vesiculitis, (all on the right side), chronic prostatitis and urethral stricture are the most frequent urological conditions giving rise to these symptoms.

In the colonic group the symptoms are suggestive of spastic colitis, irritable colon, ulcerative colitis, diverticulitis, in-

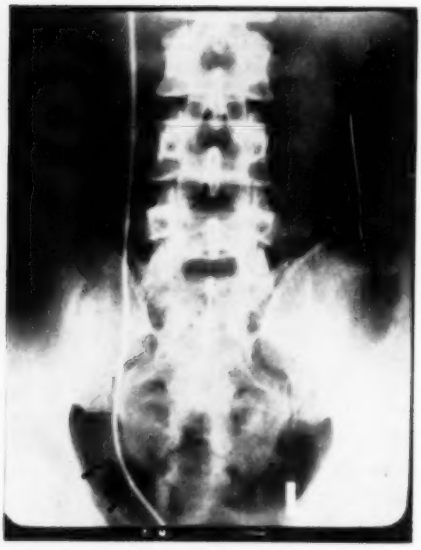

Fig. 1. Film of case 3 showing 2 stones in lower right ureter causing the pain for which patient's appendix was removed.

testinal obstruction, volvulus, and neoplasm of the large bowel. The chief symptoms are indefinite, localizable abdominal pain, lower abdominal pain, flatulence constipation, diarrhea and abdominal distension. The most frequent responsible urological abnormalities are ureteral calculus or stricture, nephroptosis, hydroureter, diverticulum of the bladder, chronic prostatitis and seminal vesiculitis.

In the peritoneal group are those symptoms suggestive of general peritonitis, ileus or intestinal obstruction. The chief ones are diffuse abdominal pain, abdominal distension, nausea, vomiting and obstipation. The principal urological conditions giving this syndrome are nephrolithiasis, ureterolithiasis, perinephritic abscess, traumatic rupture of the kidney with extravasation of blood, urinary extravasation and benign prostatic hypertrophy. The majority of cases of ileus secondary to disease of the upper urinary tract have been associated with renal lithiasis. Ileus often follows operation on the kidney.

The Mechanism of Production of Gastro-Intestinal Symptoms From Urologic Pathology We ask what is the mechanism of the production of this mimicry of gastro-intestinal lesions by pathology in the genito-urinary tract? It is three-fold. The first is of a toxic nature, where the symptoms are manifestations of uremia and an evidence of failing renal function, or of an infectious process in the kidney. The frequent occurrence of nausea and vomiting in an acute or chronic infection of the upper urinary tract, i.e. nephritis, pyelonephritis, tuberculosis, etc., may be due to reaction to bacterial toxins, or to excessive nitrogenous compounds in the blood. In long standing prostatic obstruction, we see gastro-intestinal symptoms from renal failure and a high non-protein nitrogen in the blood. In severe degrees of renal failure toxic products may be excreted into the digestive tract in excessive amounts and result in the development of gastro-enteritis or ulceration.

The second is a mechanical factor. The kidneys are very closely related to the intraperitoneal organs. The duodenum overlies the hilum of the right kidney and is in close proximity posteriorly where peritoneum is absent. The ascending colon, common bile duct, liver, and pancreas are in direct relationship. The tail of the pancreas and the descending colon overlie the left kidney. Tumor of the kidney may involve these intra-abdominal organs by direct extension or may displace them; and renal and perirenal sepsis can affect them by direct extension. The kidneys are covered by the posterior parietal peritoneum on their anterior and lateral surfaces, and inflammation of the kidneys may lead to peritoneal irritation and symptoms referable thereto.

Digestive Symptoms may be produced by a tumor or ptosis of the kidney

pushing or pulling on the duodenum or colon. Due to the fact that the peritoneum over the kidney is continuous with that covering the duodenum and common bile duct, jaundice and biliary colic can be produced by a movable kidney—since any undue mobility of the kidney will lead to tracton on, and narrowing of, the duodenum and bile ducts. At the same time there may occur a displacement of the gallbladder, kinking of the cystic duct and even a torsion of the bile ducts.

The third, the most frequent and important, is through a nervous reflex involving the autonomic nervous system. There is a viscero-visceral reflex which permits a "transfer of symptoms" from one excretory tract to the other. Painful stimuli from the genito-urinary tract have either an intrinsic or extrinsic origin and may masquerade as symptoms of intra-abdominal disease, but depending upon the origin by a different anatomical physiological mechanism.

Intrinsic Stimuli arise from irritation of the autonomic nerve endings within the urinary tract, from the renal pelvis, renal capsule or ureter. There is no pain from cutting the renal parenchyma because no pain fibers run in the nerves going to the parenchyma along its blood vessels. Painful stimuli do arise, however:

1. If the renal pelvis or ureter is suddenly distended due to urinary obstruction;

2. If the renal capsule is suddenly distended due to parenchyma swelling;

3. If the renal capsule is involved in an acute or sclerotic inflammatory process.

If distension of the renal pelvis, ureter or capsule be gradual pain usually does not occur. Thus many pathological processes may produce intrinsic pain stimuli if any of the three pre-requisites outlined above are satisfied. Any pathological process may remain symptom free if it is not satisfied. We may have slow-growing stones completely filling both renal pelves and causing great impair-

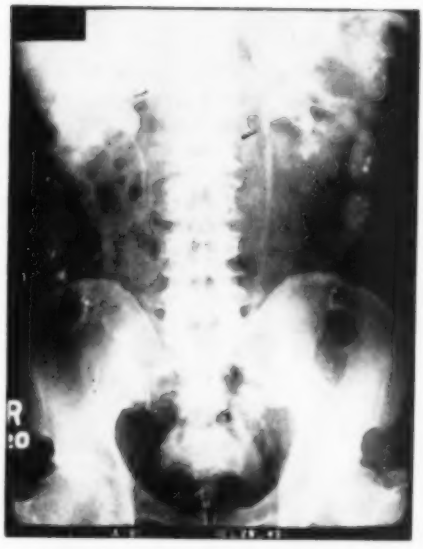

Fig. 3. I. V. Pyelogram of case 5 revealing stone partially blocking left kidney at ureteropelvic junction. Note residual barium in bowel.

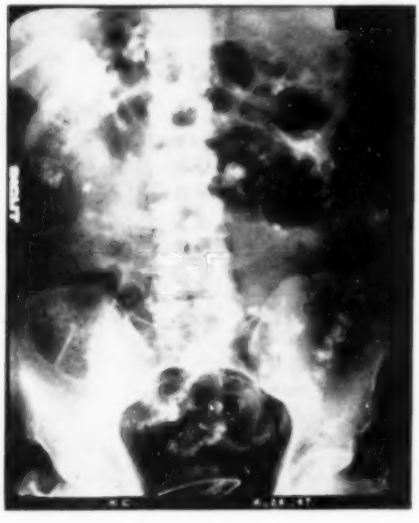

Fig. 2. Film of case 4 revealing loop catheter about stone in lower left ureter. Note barium in bowel.

ment of kidney function without even producing intrinsic pain. On the other hand, we may also see the severest renal colic resulting from temporary blockage of the kidney by a minute stone fragment in the ureter. Because parenchymal lesions of the kidney are frequently utterly silent, we see the rather extensive development of renal tumors, hydronephrosis, or tuberculosis without detection fairly often.

These intrinsic painful stimuli are mediated through the visceral afferent fibers which traverse the renal plexus lying along the renal artery. The coeliac ganglion contributes most of the fibers to this plexus, but a few are also contributed by aortic and adrenal ganglia, and the minor splanchic nerve. The renal plexus communicates with the greater splanchnic nerve through the coeliac ganglion, and with fibers from the sixth thoracic to the first lumbar segment by way of the splanchnic nerves. The visceral nerves of the kidney, originating in the tenth, eleventh and twelfth thoracic and the first and second lumbar segments, have direct reflex connection with these segments. The kidney also receives communications from the vagus nerve through the coeliac plexus. The innervation of the stomach, small intestine, caecum and transverse colon is derived in part from the same source as the kidney and ureter—largely from the coeliac plexus and the vagus nerve. It is therefore very easy for stimuli from the urinary tract to transfer to fibers going to the intestinal tract by way of the spinal cord and brain stem. Similarly, the remainder of gastro-intestinal tract (descending colon, sigmoid, rectum and anal sphincter), and the lower genito-urinary tract have a common nerve supply consisting of—(a) sympathetic (inhibito-motor) fibers derived from the lumbar segments of the cord, and (b) parasympathetic (excito-motor) fibers originating in the second, third and fourth sacral segments. The irradiation of stimuli from the genito-urinary tract is not confined to one segment, but is transmitted through the entire spinal cord and brain stem. This multi-segmental cord irradiation explains the variegated systemic manifestations of genito-urinary tract pain. In this way we may get cutaneous hyperesthesia referred through the somatic branches of these segments, and also reflexes referred to the visceral branches which supply the gallbladder and intestinal tract.

Extrinsic Stimuli arise from the irritation of the cerebrospinal sensory nerve endings in the peri-urinary parietal peritoneum from peri-renal, peri-pelvic or periureteral inflammation of an acute or subacute nature. Whereas the visceral layer and the serous surface of the parietal layer of the peritoneum are insensitive to stimuli, the outer surface of the parietal layer is abundantly supplied by sensory cerebrospinal nerve fibers. Capps has shown that stimulation of the parietal peritoneum gives rise to direct pain which is accurately localized by the patient at the site of irritation, i.e., the pain does not radiate. It is this accurate localization of pain which distinguishes extrinsic from intrinsic pain. The latter is referred through the autonomic nervous system to the abdominal cavity as indefinite, non-localizable pain. It is the location of peri-ureteral inflammation which determines whether the pain resembles that arising from acute disease of the right or left upper abdomen. As an illustration, one can have a stone in the left lower ureter with peri-ureteritis producing a marked sigmoid spasm with intestinal distension which is occasionally operated upon for intestinal obstruction.

Welch, Coplan and Holmes[12] have demonstrated by experiments that, as a result of the stimuli set up by urogenital lesions, changes in the muscular activity of the digestive tube are reflexly excited,

such as increase in the frequency and amplitude of gastric peristalsis and inhibition of the tone of the colon, and that these changes in muscular activity are probably responsible for the production of the associated digestive symptoms.

We should like to present some cases illustrating some of the salient features of the discussion presented above.

Case Reports

1. **R.B.**, a 33 year old white male, had complained of upper abdominal distress in the form of vague pain, nausea and a feeling of fulness for seven years. He had no urinary symptoms or perineal or back discomfort. He had seen many physicians and repeated investigations of the gastro-intestinal and biliary tracts, cardio-respiratory system and upper urinary tract were all negative. We found that he had a severe chronic prostatovesiculitis. Treatment of this yielded complete relief of symptoms.

2. **R.G.**, a 64 year old white male, went to his physician complaining of increasing difficulty with bowel movements. He denied any urinary symptoms but suffered from chronic constipation and vague abdominal discomfort. Examination revealed a large mass filling the lower abdomen and a huge benign prostatic hypertrophy. When a catheter was passed 1500 cubic centimeters of residual urine was obtained. Removal of the prostatic obstruction allowed perfect bowel habits and relief of abdominal distress.

3. **T.M.**, a 23 year old Japanese male, had had an appendectomy for pain in the right side of his abdomen without relief of his discomfort. Urinalysis had been normal. Urograms (see Fig. 1) revealed 2 stones in the lower right ureter. Removal of these resulted in disappearance of his discomfort.

Comment: In young males seminal vesiculitis is a frequent cause of pain in the right lower quadrant. Patients with ureteral stones and recent appendectomy scars are still too frequently seen.

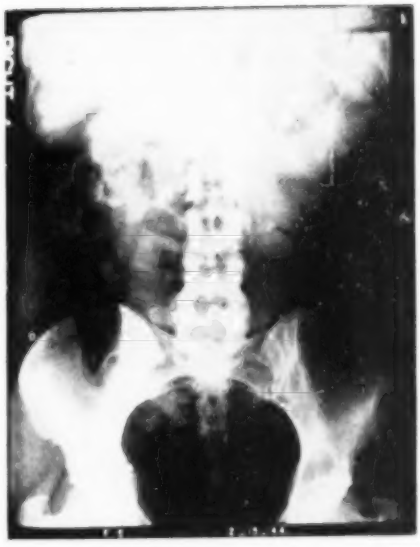

Fig. 4. I. V. Pyelogram of case 6 revealing stone in upper left ureter completely blocking left kidney.

4. **H.C.**, a 49 year old white male, had been troubled with constipation and flatulence along with dull pain in the left side of his abdomen for several weeks. He had no urinary symptoms and urinalysis was normal. A barium enema was made which was normal but the film revealed a suspicious shadow in the lower left pelvis. Fig. 2 shows a loop catheter about the stone in the lower left ureter which was extracted cystoscopically. All his discomfort disappeared. He has remained well for several years.

5. **A.B.**, a 54 year old white male, had complained for several weeks of vague upper abdominal pain, distention, constipation and nausea. He had no urinary symptoms. Investigations of the G.I. tract were negative but on the films a suspicious stone shadow was noted. Intravenous urograms demonstrated a stone in the upper left ureter partially blocking the left kidney (see Fig. 3). Its removal caused relief of all his discomfort.

6. **F.E.**, a 50 year old white woman,

was brought into the hospital acutely ill with fever, marked abdominal distention, nausea and vomiting. Urinalysis was normal. Fortunately before operating for intestinal obstruction her doctor obtained a plain film of the abdomen which revealed a suspicious shadow in the left upper quadrant. Intravenous pyelograms (see Fig. 4) revealed a stone in the left ureter blocking the left kidney. Following its removal all her symptoms subsided and she has remained well for eight years.

7. F.H., a 51 year old white woman, had never had any urinary symptoms but for several months complained of vague pain and a sense of fulness or oppression in the left upper quadrant along with mild nausea and constipation. A large mass thought to be a pancreatic cyst was felt in the upper abdomen. The urine was normal. Intravenous urograms revealed a non-functioning left kidney and a round shadow suggesting a cyst in the left upper abdominal quadrant (see Fig. 5). Further investigation demonstrated a huge hydronephrotic kidney with a very thin parenchyma, removal of which resulted in cessation of her symptoms.

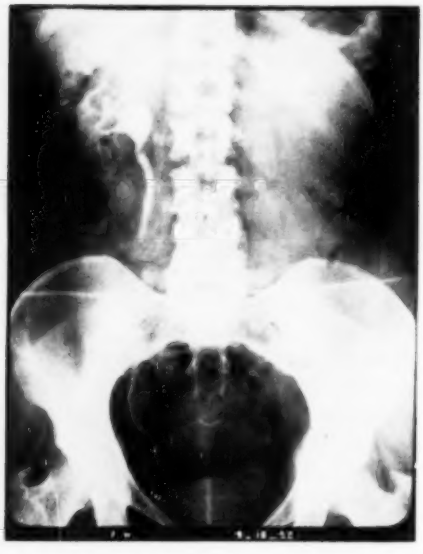

Fig. 5. I. V. Pyelogram of case 7 revealing non-functioning left kidney and circular shadow suggesting a cyst.

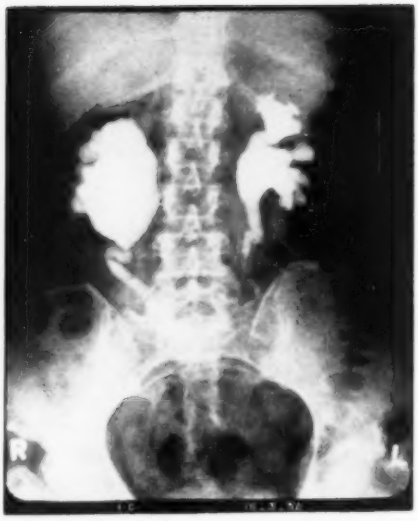

Fig. 6. Retrograde pyelogram of case 8 showing severe bilateral hydronephrosis, most marked on right side, marked kinking of the ureters and narrow stricture of left ureter.

8. I.C., a 60 year old white woman, was admitted to the hospital in coma and shortly afterward had convulsions. She had never had any urinary symptoms or findings. She had seen several physicians over several years for general malaise, fatigue, anorexia, constipation, and generalized pruritus. Her present illness began with nausea and vomiting, headache and severe weakness. Shortly drowsiness and coma developed and she was considered to have had a cerebral accident. With the development of anuria and a very high non-protein nitrogen (160 mgs. per-cent) attention was directed to the urinary tract. Severe bilateral hydronephrosis most marked on the right side (see Fig. 6) was discovered with marked angulation of the ureters and a very narrow stricture of the left ureter. The right kidney had practically no function, and the left would not drain urine unless a

catheter was inserted up the ureter into the renal pelvis. Her life was saved by an ureteroplasty correcting the stricture and marked kinking of the left ureter. She now feels very well and her renal function is normal. No operative procedure is planned on the right kidney unless it gives her trouble later.

Several more cases could be presented illustrating the symptomatic mimicry of gastro-intestinal diseases by lesions of the genito-urinary tract if space permitted.

Summary

Any patient who complains of vague or confusing abdominal symptoms and in whom the usual G.I. investigations have been made with negative findings should not be discharged or dismissed as a psychoneurotic until an investigation of the urogenital system has been made.

The normal urinalysis is a pitfall in diagnosis to be avoided. Many patients with no urogenital symptoms and a normal urinalysis will be found who have serious disease in the genito-urinary system. Disease in this system often may produce symptoms which are indistinguishable from those arising from pathologic processes in the gastro-intestinal system.

To prevent error in diagnosis and treatment the following should be considered: a thorough history should be obtained; a careful physical examination with particular emphasis upon rectal palpation of the prostate gland and seminal vesicles and study of the expressed secretion should be done.

Urine cultures are often necessary to detect latent infection. Routine tests of renal function such as the phenolsulfonphthalein test which is a simple and inexpensive office procedure should be performed routinely. This may reveal previously unsuspected renal damage. An estimation of the residual urine in the middle-aged and older male patient should be made.

A plain film of the abdomen often demonstrates differences in the size of the kidneys, suspicious calcified shadows, disease of the bones and the presence or absence of psoas shadows. This should be made before any barium is administered because barium obscures stones as well as renal and psoas shadows.

Intravenous urograms should be made if all gastro-intestinal studies are normal and symptomatic treatment fails to relieve the patient.

In some cases cystoscopy, ureteral catheterization and retrograde urograms may be necessary to yield a solution.

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Stimulation of Wound Healing With Potassium Iodide

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In clinical surgery a most distressing problem is delayed wound healing and the treatment of ulcers which are resistant to therapeutic efforts. This category of patients usually is the subject of many laboratory studies. In most instances the laboratory data fall within normal limits. When the values (e.g., serum protein) are below normal, efforts are made to correct this deficiency. On many occasions clinical and laboratory studies fail to reveal any deficiency in the usually sought blood ingredients. Although all values are apparently normal some patients continue to remain problems in the failure of wounds to heal. It is upon this group that our attention is focused at present.

Thought is given to the possibility of an alteration in iodine metabolism. This thought has been postulated by other investigators.[1] These authors have presented data which seem to indicate that there is an alteration in iodine metabolism which follows surgical operations. It has been postulated that the postoperative increase in iodine excretion is a result of an increased secretion of thyrotrophic hormone which mobilizes iodine from the thyroid gland as well as a result of an accelerated destruction of thyroid hormone in the peripheral tissues.[2] The loss of this element is rarely detected by laboratory studies following operation. In addition thought is seldom given to the idea that iodine is in any way associated with the problem of wound healing. The causal relationship between iodine and wound healing has been suggested previously. In the October 10, 1891 issue of *The Lancet* mention of iodide of potassium in the treatment of deep wounds is recorded for the first time. "Dr. Schleich has administered iodide of potassium in 92 cases of wounds of considerable extent or depth affecting both the bones and the soft parts, including operative cases. The progress of each wound was noted for several days before administering the iodide of potassium. The cases were mostly those where the granulation process was slow, but during the administration of iodide of potassium (5½ grains t.i.d) the surface of wounds, which had been smooth, of a dirty gray color, and partly covered with fibrin, changed in 4 days to a healthy red color; appearing granular and vascular; the circulation improved, and the secretion, which had previously been very scanty, increased. He concludes from his observations that iodide of potassium possesses the property of increasing the activity of leukocytes in places where the circulation has been disturbed by wounds."[3]

The great Chicago surgeon, Nicholas Senn, expressed an opinion on this subject

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in 1905, and concurred in the belief that potassium iodide was an effective oral medicament to stimulate wound healing.[4]

Although this use of potassium iodide was suggested over 50 years ago, modern surgeons have not availed themselves of the beneficial effects of this medication. It is the purpose of this communication to accentuate the therapeutic value of potassium iodide in the treatment of chronic ulcers, wound infections and wound disruptions.

Prior to presenting additional information on this subject it is proper to recall to mind the physiology of iodides. After absorption, iodide is distributed in exactly the same manner as chloride and bromide. This indicates that its distribution is entirely extracellular except for its penetration into the red blood cell. After equilibrium, the amount of iodide in the serum is an index to its concentration in all other extracellular fluids. The iodide ion is readily excreted by the kidney. It is highly probable that the kidney excretes iodide preferentially over chloride and most of it is lost from the body within 24 hours.[5]

Potassium Iodide has been used for many years in medicine as an alterative and in the treatment of syphilis. It has been employed in many forms (pills, capsules, and saturated solution). All these are somewhat irritating to the stomach (another toxic manifestation is swelling of the salivary glands). In order to counteract the gastric irritation a new method of giving potassium iodide has been developed. This is a pill containing one gram (15 gr.) of potassium iodide in an enteric coating. These pills do not dissolve until they come in contact with the bile in the intestinal tract. The pill is insoluble in alkaline or acid solutions alone. This newer method of administration eliminates the gastric distress. The suggested dose is one tablet three times daily.[6]

This method and tablet were employed in our work on the stimulation of wound healing.

Our cases were chronic indolent ulcers of the legs (varicose ulcers) and postoperative delayed abdominal wounds. In the patients treated with varicose ulcers the local application of an iodine ointment was used in addition to the oral administration of potassium iodide. Healing which results from iodine stimulation is characterized by an excessive "scab" formation. This same occurrence is seen in abdominal wounds which have been stimulated to healing by means of potassium iodide. The use of this drug produced excellent results in ambulatory patients with leg ulcers, and in others with delayed abdominal wounds and in other patients with diffuse burns.

In those patients with delayed wound healing who have a normal laboratory study, the use of iodides may prove to be beneficial. Although the physiodynamics of the drug are not known its use is recommended. No deleterious effects result from the administration of iodides. There are occasionally only minor toxic reactions which are: gastric distress (nausea) and swelling and/or pain in the salivary glands.

Summary

1. The empirical use of iodides in cases of delayed wound healing is suggested.

2. Beneficial results are recorded in patients with normal laboratory studies who fall into this category.

3. The cases studied were patients with indolent leg ulcers and slowly healing abdominal wounds.

4. A characteristic type of healing is mentioned when iodides are the stimulating agent.

5. Although the pharmacological action of iodides in this instance is not known, the beneficial results warrant the continued use of this therapeutic agent in patients with delayed wound healing.

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567 First Street

Polio Protection Afforded by Gamma Globulin, Report Says

Evaluation of the use of gamma globulin for immunization against poliomyelitis has disclosed that passive and temporary immunity to the disease may be obtained through its use, it was reported in a recent *A.M.A. Journal*.

Analysis of the use of gamma globulin on approximately 55,000 children in Texas, Iowa, Utah and Nebraska during the 1951-1952 epidemic has shown that it gives "highly significant protection against paralytic poliomyelitis," according to Drs. William McD. Hammon, Pittsburgh; Lewis L. Coriell, Camden, N. J.; Paul F. Wehrle, Pittsburgh, and Joseph Stokes Jr., Philadelphia. Gamma globulin, a blood fraction, is now employed to prevent or modify measles and infectious hepatitis, a liver disease.

The children involved in the tests ranged in age from one to 10 years. Dosage of gamma globulin administered was based on body weight. Half of the children were given injections containing the blood fraction, while the other half received injections of an inert gelatin solution. The doctors did not know until the study was completed which preparation was administered to each child. The children were studied for 14 weeks after being given the injections.

A total of 104 cases of paralytic polio occurred in the group of children studied; 31 cases occurred in the group which received gamma globulin, and 73 in the group which received the gelatin solution, the doctors reported.

Maximum protection was afforded between the second and fifth weeks after inoculation, with protection appearing to wane after the fifth week, the doctors pointed out. Between the sixth and eighth weeks, 35 per cent of all 20 cases of paralytic polio occurred in the children inoculated with gamma globulin, suggesting "that adequate protection had been lost in many children, but persisted in some." After the eighth week, no protection was detectable and an equal number of cases occurred in both groups, which was five.

Use of gamma globulin significantly modified the severity of the disease in those cases which occurred within a week after inoculation, the doctors reported, although it did not modify the severity of cases occurring at a later period.

The inoculations, which were given intramuscularly, did not have any effect on the localization of paralysis resulting from the disease, nor did inoculations of gelatin increase the incidence of the disease, the authors concluded. No late complications or reactions resulting from the injections were seen.

Because of the limited supply of gamma globulin, mass prophylaxis cannot be recommended except in extremely severe epidemics, the doctors pointed out. As gamma globulin will not affect the course of the disease after onset of symptoms, it should not be given to those persons who are already sick.

A Current Case of Rheumatic Fever

EDWARD GREER, M.D.
Robinson, Ill

The tendency of untreated rheumatic fever to recur and progress will generally lead to its eventual recognition. Prompt diagnosis and treatment are essential requisites for the best results. Nevertheless, as my case will demonstrate, very good results may be obtained even in a long neglected case.

My chief symptoms were mental and physical depression, loss of normal vigor, tachycardia, decreased vital capacity, sticking pain over the heart, general migratory myalgia, and arthralgia of recurrent and progressive nature. I felt more fatigued on awakening than when retiring and lack of energy prevented normal activities.

The Main Physical Findings were low grade posterior pharyngitis, pallor, increased capillary fragility (manifested by easier nose and gum bleeding), a systolic mitral murmur accentuated by exercise, drop-like enlargement of the heart, electrocardiograms suggestive of rheumatic carditis and recently, subcutaneous nodules. The latter occurred in the tendons of the calves and triceps, and one, red, swollen, tender, 2 mm. in diameter, appeared very plainly on the outer aspect of the interphalangeal joint of the right thumb. The rather subtle physical finding, which I believe was the cause of this flare-up, was an infected left upper third molar. It protruded out the buccal side of the gum and crowded the rest of the upper teeth. No other third molars were seen by oral x-ray. Tenderness was elicited only by probing the gum around the tooth or by shaking it with the fingers. It was more loose than the normal teeth and a foul taste or odor was occasionally noted when this tooth was pressed sideways. My left post-auricular and cervical lymph nodes were somewhat swollen and tender. Radiographically, there was periapical decreased density, typical of an infectious process. On extraction, Sept. 15, 1952 the rarefaction and roughness seen in x-ray were confirmed by the gross appearance of the tooth. Gross pus was not encountered. This was anticipated in view of the prophylactic antibiotics taken the preceding forty-eight hours. For two days before and after extraction, I received 600,000 u. aqueous procaine penicillin and one gram dihydrostreptomycin intramuscularly. Six hours after the first dose of antibiotics there was noticeably less tenderness around the tooth and I obtained the first relief of general malaise in two months. Two to three thousand mgm. Vitamin C had been taken before each meal and at bedtime to control capillary fragility, and

From the Edward Greer Hospital.

make going possible during this siege of malaise. There was no post-extraction hemorrhage and the post-anesthetic pain was greatly benefited by the large doses of ascorbic acid. To date, February 28, 1953, improvement has continued, despite discontinuance of all medications, except vitamin C.

Summary

In the clinical management of several serious cases of rheumatic fever, as well as my own, large doses of Vitamin C, appropriate antibiotics, and surgical extirpation of etiologic foci of infection, when feasible, have proven rapid, safe, effective, and physiological anti-rheumatic fever measures.

Recent Discovery About Tiny Lung Tumor

Some tumor patients are going to be spared major surgery as a result of findings announced by Dr. John T. Prior, assistant professor of pathology at the State University of New York's Upstate Medical Center at Syracuse.

Dr. Prior has discovered that a tiny lung tumor, previously believed malignant (cancerous), has no malignant characteristics and does not require removal of large sections of the lung.

Because of their microscopic size, these tumors were usually found in routine examination of lung tissue taken from people who died of other causes.

When doctors did find them during surgery on living people, they diagnosed them as "very malignant" and proceeded to remove either the entire lung or large sections of it surrounding the tumor to stop the growth of what they thought was a cancer.

Dr. Prior's discovery means that in the future people having such a tumor need have only a tiny bit of the lung cut away.

When Dr. Prior started his investigation of this particular type of tumor three years ago., there were only 13 cases on record. Before making his pioneer conclusion the doctor found and studied 20 additional cases to substantiate his beliefs.

These tumors are found just under the pleura, a fibrous casing around the lung, in the inside lining of the bronchioles, the smallest branches of the tubes that carry air through the lung.

The location of the tumors has led Dr. Prior to label them "bronchiolar adenoma" which means "non-cancerous tumor of the lining of the smallest air passage."

Dr. Prior reports five reasons in support of his conclusion that these tumors are not malignant:

1. Not one of the 20 cases studied shows any sign of either local or distant spread of the tumor.

2. There are five persons still living who have had these tumors removed and X-rays show no spread of the tumor.

3. From 88-95% of all true cases of lung cancer appear in men, but 65% of these lung tumors have been in women.

4. Microscopic examination reveals that these tumors do not have the characteristics of cancer cells.

5. This tumor does not fall into any of the four recognized classes of lung cancer.

Dr. Prior presented his findings in a scientific paper at a meeting of the American Association of Pathologists and Bacteriologists. There was no opposition to his theory there, even from those who previously thought the tumors cancerous.

If no one challenges the discovery, it will become a part of established medical knowledge and future cases will be treated by local lung surgery.

Premenstrual Tension and the Menopause

A Neurovegetative Approach to their Treatment

PAUL E. CRAIG, M.D.
Tulsa, Okla.

There are two conditions, both primarily of a psychosomatic nature, which pose a therapeutic problem for the gynecologist. The treatment of premenstrual tension and the climacteric is difficult because of emotional involvement in the causation of these syndromes. Many theories as to their cause have been advanced, but as yet, no one etiologic basis has met with complete approval. Many forms of treatment have likewise been suggested.

I have approached the treatment of these two syndromes with the view that neuro-vegetative dystonia is a major factor in the symptomatology demonstrated.

Premenstrual Tension There is no doubt that emotional factors play a dominant role in the condition.[1,2,3] It is felt by many that the whole syndrome is essentially psychogenic, an instance of psychosomatic malfunction associated with the emotional components of the menstrual cycle.[3] For this reason, any source of fear, serious worries or domestic difficulties should be sought and removed.

There is obvious disagreement as to the specific physiologic mechanism which produces premenstrual tension. There may be: a) faulty salt metabolism as reported by Greenhill and Freed[4]; b) excess female sex hormones as shown by Frank[5]; c) a disturbance of the sympathetic nervous system producing generalized edema, as demonstrated by Sweeney[6]; d) faulty luteinization.[7] It is important to note that the etiologic pattern is not always the same in every case.

Results of complete examinations indicate that there are a great number of apparently normal women who undergo considerable physical and emotional suffering the week or so preceding the menstrual flow. (Many of them do not then suffer from painful menstruation.) Greenhill[2] lists several of the causes for this premenstrual distress. These are: ". . . headache, nausea, bloating of the abdomen, fullness and pain in the breasts, emotional disturbances, edema of the vulva, and frank edema of other tissues of the body."

In my series of 45 women between the ages of 25 and 49, the following were the chief complaints:

1. Vertigo
2. Vertex pressure headaches
3. Somatic backache, complaints of pelvic heaviness, and engorgement and severe uterine cramps
4. Extreme nervous irritability
5. Restlessness and insomnia.

This brief review serves as a background to a discussion of the type of therapy helpful in these cases. For those patients who present edema, salt restriction is advised. Some physicians relieve the distention by increasing urinary output through the use of diuretics. Others employ estrogens in

an effort to "normalize" possible endocrine imbalance. The choice of therapy is dependent on the etiologic factors involved.

I have employed what is believed to be a different approach to the treatment of premenstrual tension. It is my opinion that the tension experienced prior to the menstrual period is due largely to heightened response by a labile nervous system. Raising the threshold to emotional stimuli could conceivably prevent or attenuate such disturbances and this could be achieved by inhibiting autonomic overactivity. In my search for drugs blocking autonomic function, my attention was directed to Bellergal as a preparation providing such effects. As the emotional centers become stimulated from impinging emotional stresses, the sympathetic and parasympathetic nerves receive stimuli which are transmitted to the end organs, producing functional symptoms. It has been shown that the joint administration of a vagal depressant and a sympathetic depressant do not neutralize each other, but rather that each drug acts upon its respective system.[8] The inclusion of the sedative phenobarbital in this preparation appeared rational to provide an integrated effect on central functions as well. Results with this form of therapy more than amply demonstrated its effectiveness.

The 45 women described previously followed a dosage regimen of 1 tablet of Bellergal after each meal and 1 at bedtime for the three days prior to the onset of the menses—a total of 12 tablets over a 72-hour period. Each of these cases benefited uniformly. Thirty-five patients or 85% were completely relieved of pain and emotional stress at the onset of menstrual flow. The other 15% continued to take the medication for the duration of their menses with attendant reduction in the severity of their complaints.

The Climacteric Since the menopause is not a disease, it cannot be treated as a pathological entity, but the woman can be treated for whatever diseases or conditions arise during this transitional phase of life.[9] There is a great tendency today to question the use of hormones for the control of menopausal symptoms.[10,11] There is, of course, a rational use for estrogen replacement, but it should not be resorted to neither arbitrarily nor unnecessarily.

There is no doubt that psychosomatic factors play a dominant role in this syndrome.[12] Psychotherapy has been employed by many and has been a successful tool for the relief of climacteric symptoms in some severe cases. Harris[13] points out the psychologic advantage of hormonal treatment which gives the patient the feeling she is being kept young. On the other hand, Hamblen[14] noted that when mild sedatives suffice, there is no need for organotherapy. Harris,[13] employing a combination therapy, observed that there is evidence that a vegetative nervous system imbalance is the basic cause for the symptoms. It is his opinion that ". . . therapy should be directed primarily to this system. We have found an excellent combination for this purpose to be: ergotamine tartrate for its effect on the sympathetic nervous system; belladonna for its effect on the parasympathetic nervous system; and phenobarbital for its effect on the central nervous system. These drugs can be obtained combined in suitable dosage in tablet form (Bellergal)."

Harris reported successful results with the use of this drug supplemented, when indicated, by estrogen therapy. It is interesting to note that MacFadyen[15] enjoyed similar results in a group of climacteric and post-menopausal patients complaining of a variety of symptoms.

I have employed the combination of a vagal inhibitor, sympathetic inhibitor and central nervous system sedative in a series of 26 women in an age range between 45 to 52 years who were nervously disturbed due to an abrupt cessation of menses or by a gradual diminution with irregular flow and spotting. These cases, as a whole,

manifested the following symptoms:

1. Extreme vasomotor disturbances characterized by alternate flushing and blanching of the skin.

2. Nervous, emotional and mental instability.

3. Somatic complaints referable to the head, back, heart, stomach and pelvis; characterized by dizziness, shortness of breath, epigastric pain, diarrhea and migratory joint pains.

This group not only manifested signs of emotional stress but also episodes of euphoria alternating with depressed states, especially noticeable at or about the time when the period was normally experienced. One tablet of Bellergal was prescribed for use after meals and at bedtime and the duration of treatment varied to a maximum of 3 months. Twenty-four patients, 90% of the series, responded with marked improvement in their status, both physically and mentally. In some cases, a dose of 1 tablet daily served a useful purpose in maintaining the patients symptom-free. No side-effects were observed.

Conclusion

A method of treatment of premenstrual tension and of disturbances of the climacteric is here presented, based on the concept that a labile nervous system is a major factor in their genesis. This was approached with the view of regulating the autonomic nervous system, and for this purpose, the combination of drugs present in Bellergal served admirably in the reduction of symptoms, both as to degree and number. The improved sense of well-being offers satisfactory evidence that such patients may derive considerable benefit from this simple method of treatment.

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415 Daniel Building.

Clini-Clipping

Bleeding time (Duke's Method). Normal bleeding time. Blots made on filter paper at half-minute intervals (after Todd and Sanford). Bleeding should cease in 3 to 5 minutes.

From Lankowski and Rosenova: "Hospital Staff and Office Manual."

Education of the Public or How To Treat Your Doctor

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In these hurried times when interpersonal relations may be neglected, it is well to stop for a re-evaluation of the relationship of the patient to his doctor. Through wear and tear this may have become quite different from what it was years ago. Much has been written recently about the physician and how he has changed with the years. Self-criticism and public opinion have been equally important in clarifying the position of the modern family physician, or the "personal physician" which has been suggested as a more appropriate title. The American Academy of General Practice through its precepts and activities has helped to shape, educate and improve the status of the man in General Practice in every possible way. I am convinced that in years to come its work will be recognized as a milestone in medicine. Thus, the effort is being successfully made to improve the performance of the physician as a member of the doctor-patient partnership. Is not, then, an educational campaign indicated if the other partner is found lacking in important respects?

The Doctor, of course, has had the benefit of self-criticism; we cannot expect this of the public. It is up to the practitioners themselves to show the public the errors of their ways in relation to the profession; by so enlightening the patients, the doctor will be the first to benefit from the improvement.

Let me take you now into the daily practice of a physician where you will find parallels in your own practice to each instance quoted. I believe you will agree that your patients as well as mine are in need of further education towards the improvement of the so-called doctor-patient relationship in order to render them more considerate. At 2:30 A.M. the telephone rings and a happy young mother reports, "Doctor, my baby's temperature is normal now, what should I do with the medicine?" Or, the waiter who serves early breakfast at a hotel is about to leave home at 4.20 A.M. and wants to know if I can do something for the spells of shakiness his wife has been having since their return from vacation three days earlier; their daughter calls again at 6:30 A.M. to make sure I will come to the house during the morning. Or, the requests for emergency calls which are never emergencies; or the requests on Sundays or holidays to see patients who have been ill for several days; or the family's neglect to follow up a severely ill case when requested to do so by the doctor, just because in their judgment

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the patient has recovered. The conscientious physician does care and, if he believes in God, offers many a prayer in behalf of his gravely ill patient. The conscientious physician in many instances is equally shy or otherwise too preoccupied with his work to pick up the telephone and find out how several of his patients are doing. But this is what the patient in many instances expects, yet not realizing or not knowing that this is not the customary routine. To avoid some of the nuisance calls, many physicians have omitted their residence telephone number in the telephone directory. Too many people resent this and are in dire need of proper explanation to convince them that "our" twenty-four hours service number is at "their" service and that these professionally trained operators know much better than the doctor's family when and where to locate him quickly.

It is true that the patient should consider the doctor as his friend even if at the same time he assumes that the doctor of medicine just deals in "services". Yet, between the somewhat mysterious reverence with which the doctor surrounded himself years ago and the disrespect with which some of the people treat their doctor at present, there must be a golden middle way. If the patient desires to have a "personal" physician he ought to treat him in a personal, amiable fashion. The feeling of trust in the doctor is only strengthened when a consultant is called in, if the condition warrants extra help or if he desires support in the diagnosis of a more serious ailment. All is fine if the doctor takes the initiative and arranges for the consultation. But if the patient, or more so his relatives, wishes to consult with another doctor or one who limits himself to a specialty, the trouble begins. Various embarrassing situations can be avoided if the public could only be informed as to the simple code of ethics which fortunately still exists among the practitioners of this day and age. Here is work for the Committee on Public Relations in our own American Academy of General Practice and for the American Medical Association and its affiliated local branches.

Publications On Medical Subjects concerning doctor-patient-and-consultant relationships in popular magazines and newspapers recently, however gifted or famous their authors might be, have done nothing to improve the situation; if anything, they have materially added to the existing confusion of the public. In this connection I feel it is high time to inform the public of the importance their "personal" doctor feels in attending to them properly, not only diagnosing and treating their ailments and diseases but in handling them as persons rather than as "cases". They should know that he is giving them the special kind of attention they require, regardless of whether it is a medical or surgical "case", and that he knows best when to call a consultant and whom to call, when the situation warrants it. Then and only then, will the public understand why their doctor has to be paid, too, as well as the "specialist" who is called in because of his particular skill.

With the continuous postgraduate work required by the American Academy of General Practice and the various opportunities offered by the American Medical Association and its affiliated branches, with reading of the many journals and attending of scientific hospital meetings, done under great duress by many because they are time-taking, and the constant flow of new drugs and improved techniques, better medicine is practiced throughout the country. And the public should know it. These many hours of work to keep abreast with developments are something not realized by the average patient; not to speak of hours spent in teaching, attending free clinics or hospital ward patients. The average patient benefits by all this and yet he knows very little if

anything about it. It is time now to propagandize these features of the real doctor, their partner in the doctor-patient relationship, rather than the peculiar characters called "doctors" demonstrated to them in movies, video, the legitimate theater and in magazines nowadays.

Summary

I feel very strongly that it is up to us to inform the public through any available medium but only by officially authorized physicians or through our organizations as to their relationship to the medical profession. It certainly would harmonize the physician-patient relationship and eventually encourage also efficient young men to remain in general practice, if their important position in medicine should be properly explained to the public and in turn, the public would be better educated to treat their personal physicians with the respect, courtesy and thoughtfulness with which they expect to be treated by them. This will contribute tremendously to a proper relationship and would be another bulwark fortifying our present stand of medicine against the forces trying to socialize the medical profession.

30 North Michigan Avenue

Future VD Programs To Concentrate On Late Stages

Venereal disease control in the future will become more and more a matter of finding and treating people in the latent and late stages of syphilis in order to prevent disability and premature death, in the opinion of Dr. Theodore J. Bauer, Atlanta, Ga. Dr. Bauer is medical officer in charge at the Communicable Disease Center of the U.S. Public Health Service.

Although the results of casefinding of early syphilis have resulted in a consistent decrease in the number of infectious syphilis cases being reported, there remain an estimated 2,100,000 persons with latent and late syphilis in the population who must be discovered and brought to treatment, Dr. Bauer wrote in a recent *Journal of the A.M.A.* Unless this is done, approximately 250,000 of these persons will suffer from central nervous system and cardiovascular manifestations of the disease.

Dr. Bauer pointed out that in 1936, there were about 92,000 persons with psychoses due to syphilis in mental institutions. In 1952, the number was 41,000.

A great decrease also has been noted in recent years in the number of adult deaths, infant deaths, and disabilities due to syphilis. In 1951 the adult death rate from syphilis was 4.7 per 100,000 population, as compared to 10.7 per 100,000 population in 1940.

"The reduction in infant mortality due to syphilis is even more striking," he stated. "It is estimated that the infant death rate due to syphilis was 0.06 per 1,000 live births in 1950, a decrease of about 92 per cent from the 1933 rate of 0.79 per 1,000 live births. It is interesting to note that the infant mortality rate due to syphilis has been reduced much more markedly than the infant death rate from all causes."

The rapid decline in cases of early syphilis in the United States during the last decade is the result of intensive effort to find and treat persons with the early stages of the disease, according to Dr. Bauer, who added:

"As early syphilis gradually is brought under control in this country, one must remember that the increase in international mobilization and the ease of international travel increases the likelihood of importing syphilis from foreign countries where early syphilis is not under control.

Clinico-Pathological Conference

New York University-Bellevue Medical Center Post Graduate Medical School, Department Of Medicine at Bellevue Hospital, Fourth Medical (N. Y. U.) Division

PATIENT E. M.

This was the first Bellevue Hospital admission of a 67-year-old white male who entered the hospital on 11/2/51 with a note from a Camp LaGuardia physician stating that the patient "has a low-grade fever, lesions of the mitral and aortic valves, enlarged liver and spleen and many petechiae on the feet."

The patient was apparently well until 2½ months prior to admission when he first noted paroxysmal nocturnal dyspnea, which subsequently appeared almost nightly and, at the time of admission, was occurring 3-4 times nightly. Each paroxysm lasted about 15-20 minutes. During this period he also noted exertional dyspnea on 1½ flights of stairs and some ankle edema. He was treated with an injection of Mercuhydrin at the camp every other day, but was not digitalized. He denied hypertension, angina, lues and rheumatic fever.

For 15-20 years p.t.a. he had a chronic cough, productive of ¼-½ cupful of whitish-to-yellowish, thick, non-foul, non-bloody sputum daily. This cough was still present at the time of admission. He denied ever having had tuberculosis. He did have recent night sweats, but denied chills, weight loss, and anorexia. He had no idea what his temperature had been running.

He had been on relief since 1947, having been an outside laborer before then. He smoked about 30 cigarettes daily.

The remainder of the history was essentially negative.

Physical Examination *T.99.4 P.82 R.20 B.P. 140/50.* The patient was a well-developed, rather poorly nourished, elderly white male, who was slightly hazy mentally, but in no other apparent distress. The skin was warm and dry. Head, ears, nose and throat were not remarkable. There was a small petechia on the left lower palpebral conjunctiva. The right pupil was slightly larger than the left, though both reacted to light and with accommodation. Early cataracts were present bilaterally. The fundi revealed moderate arteriolar narrowing and tortuosity; no hemorrhages, exudates or papilledema. The neck veins were slightly distended in the sitting position and filled from below. The chest revealed a slight increase in A-P diameter. There was questionable dullness at the right base posteriorly, and medium-moist rales at both bases. The PMI was in the 5th I.C.S. 2 cms. beyond the MCL. The sounds were of moderate intensity, $M_1 > M_2$, A2 = P2. RSR with fre-

quent P.V.C.'s. There was a loud, medium-pitched, apical, systolic murmur, lasting throughout the systole and a separate systolic murmur at the base. A softer diastolic murmur, lasting throughout diastole and having a short presystolic crescendo, was heard at the apex. The abdomen was scaphoid and there was moderate voluntary resistance to palpation. The liver was felt 3 F.B.'s below the RCM and was slightly tender. The spleen, kidneys were not palpable. There was a 2+ pitting pretibial and pedal edema. Scattered, small, purpuric, non-blanching spots were seen about the ankles and feet. Pistol shot sounds were heard in both femoral arteries and water-hammer pulses were noted. The remainder of the physical examination was essentially negative.

Course in the Hospital The patient was immediately digitalized. Six blood cultures were taken (venous and arterial), all of which were negative. He ran a low-grade fever of about 100° and on 11/8/51, penicillin 1,000,000 U q3h was started. On 11/15/51 a new crop of petechiae appeared on the legs and ankles and now the diastolic murmur was best heard at the 2nd I.C.S. to the right of the sternum. By 11/24/51 the petechiae had disappeared. However, because he was still febrile, streptomycin 0/5 gm. q6h was added to the regimen. By 11/29/51, all his edema had disappeared. On 11/30/51, he had an attack of acute pulmonary edema: B.P. 200/110, P-140 R-42. He responded to the usual measures. On 12/1/51 it was noted that he still had the "to and fro" murmurs at the apex and base. Dullness was noted in both bases with diminished breath sounds in the left base and many medium-moist rales bilaterally. On 12/3/51 his BP was 116/40, P-88 and R-20 and, because his temperature was 101, it was decided to cut penicillin and streptomycin and start the patient on aureomycin 0/75 gm. q6h. On 12/7/51 this was cut to 0/50 gm. 26H because of nausea. He was afebrile then for six days when, on 12/9/51, he spiked to 102, at the same time having another attack of acute pulmonary edema. With the usual emergency measures he responded very well but then went on to cessation of breathing with no audible heart sound later the same day. He responded well to I.V. epinephrine and artificial respiration, but remained confused. On 12/10/51, the heart sounds were noted to be distant, but the murmurs persisted unchanged. On 12/13 he was still confused and a protodiastolic murmur was noted. On 12/17/51 he complained of coughing more than usual, his B.P. was 124/20 and his temperature rose for the first time since 12/9/51; it was 102.2. On 12/22/51 B.P.—100/40-0 and dullness, diminished breath sounds and medium moist rales were present in the right base. The diastolic gallop and the same murmurs remained. On 1/3/52 the lung signs were unchanged but, by 1/12/52, they were clear and the patient asymptomatic and mentally clear. Since 12/17/52, he usually ran a low-grade temperature, with occasional spikes to 102 and periods of a few days with no fever at all. On 1/22/52 he became increasingly dyspneic and developed rales half way up his chest and a 4+ pitting edema of the feet. He was treated with mercurials and by 1/25/52 his lungs were clear and the pedal edema had gone. On 1/26/52 he was noted to be lethargic; this progressed, and on 1/28/52 he was thought to have a uremic odor to his breath. The heart findings remained the same. He was fed glucose, water and amigen intravenously. On 1/29/52 he became semicomatose and died.

11/ 5/51 *Serology*—negative
1/10/52 Rumpell-Leeds test—negative
11/ 8/51 Venous Pressure = 160 mms. H20, Decholin Time = 14 secs. Ether time-unsuccessful.
11/ 8/51 Prothrombin activity = 100%
11/12/51 Platelet count = 200,000
11/ 5/51 Sputum for AFB

Laboratory Data

Urines

Date	Color	S.G.	pH	Alb.	Sug.	Acet.	WBC	RBC	Other
11/8/51	yel.	QNS	4.5	0	0	0	5-6	—	3-4 granular casts
11/16/51	yel.	1.017	4.5	0	0	0	4-5	—	
11/30/51	yel.	1.020	5.0	0	0	0	7-8	—	
12/16/51	yel.	1.016	5.0	0	0	0	—	2-5	
12/17/51	cl., yel.	QNS	7.0	0	0	0	—	—	
1/6/52	yel.	1.030	7.5	0	0	0	0	0	
1/15/52	amber	1.020	6.0	0	0	0	10-12	3-4	
1/22/52							3-4	occ.	

Blood Counts

Date	Hgb.	RBC	WBC	Differential Tr	P	L	M	E	B	ESR	H'ct
11/5/51	9.0	3.38	4,600							92	
11/7/51	8.0	2.87	4,550	3	72	21	3		1		
11/12/51	10.5										
11/14/51			4,550	4	68	25	1	2			
11/19/51	8.5	3.23								104	28
11/28/51	8.5	3.48								104	
12/1/51			7,750	3	66	24	1	6			
12/11/51	8.5	3.25	4,700	1	74	19	6				
1/7/52	9.5	4.38	7,750	3	62	29	3	4		70	
1/14/52	9.5	4.08								32	
1/23/52	10.5	3.74								30	

Blood Chemistries

Date	ZNPN	CO2*	A/G	I.I.	Alk. Phosph.	P.	Na*	K*	Creatinine
11/5/51		25							
11/7/51			4.5/3.6	5	1.5	3.09			
12/14/51	50		3.8/3.8	6					
1/10/52	45								
1/29/52	132	13					136	4.1	2.4

* Meq/Liter

Smear—negative
Conc.—negative

X-Rays 11/3/51 Heart not enlarged. Fibrotic nodules both upper lobes. Bronchiectatic changes at bases.

11/29/51 Esophagram — Esophagus normal.

12/ 1/51 Pneumonic consolidation L.L.L. and possibly R.L.L. Heart enlarged in transverse diameter.

12/20/51 Negative chest.

1/11/52 Heart not enlarged. Effusion both bases. Dense engorgement lower halves of both lungs. Fibrotic infiltration in both subapical regions.

EKG's 11/5/51 No. D.E.A. Mid positions RSR with pvc's and avc's. No changes of diagnostic significance.

11/ 9/51 No D.E.A. Mid-position. RSR with pvc's and fusion beats. There are depressed ST segments in leads 1, 2, V3, V4 and V5. The T waves are deeply inverted in V3, 4 and 5. Some of these changes are probably due to digitalis, but anterior myocardial infarction cannot be excluded.

11/20/51 No D.E.A. Semi-vertical RSR with PVC's of different foci. No significant change from previous tracing (11/9/51).

12/ 5/51 No. D.E.A. Semi-vertical Sinus rhythm with PVC's. There are fewer PVC's than previously and slight change in heart position. Otherwise there is no essential change from record taken 11/20/51.

12/12/51 L. D. E. A. Horizontal heart AR = 160. VR = 100-120. The rhythm varies from Wenckebach phenomenon to a 2:1 AV block. There are minor T wave changes and some change in heart position since previous record (12/5/51.)

12/21/51 L.D.E.A. Horizontal heart. R.S.R. Since the record of 12/5/51 there are further ST-T changes. These are difficult to evaluate in presence of digitalis administration. The heart is more horizontal than previously.

1/28/52 No D.E.A. Mid position-2nd degree AV block with wandering pacemaker. There is no essential change from the previous record except the change in rhythm.

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression or formulation here, if you wish.

Pathological Findings

Necropsy revealed the presence of *subacute bacterial endocarditis* of the aortic valve. There was an advanced degree of healing, presumably due to the treatment with penicillin. A rounded perforation was present in its non-coronary cusp. This must be considered the source of the diastolic murmurs heard clinically. Organisms were not seen in a smear from the vegetation, nor did they grow in aerobic or anaerobic culture. Penicillinase, unfortunately, was not admitted to the culture media; nevertheless the culture was maintained for 10 days. One would expect growth of penicillin-sensitive organisms present since, after a week, the antibiotic is usually inactivated by the salts of the medium. A minute embolus is present in a small myocardial vessel. A thrombus was present in a Thebesian vein of the fossa ovalis and in the left auricular appendage. This presumably was the source of the cerebral embolus.

No gross or microscopic evidences of rheumatic inflammation were found; the bacterial infection apparently developed on a previously normal valve.

Independent of the preceding was a low-grade, but active, process of *tuberculosis of the lungs*. This involved the apices of the right and left upper lobes. It is likely that this caused the fever while the infection of the heart valve was overcome. There are no anatomical changes in the kidneys that satisfactorily account for the azotemia. L.S.

PATIENT F. D.

This 89-year-old white female was admitted to the Fourth Surgical Service at Bellevue Hospital on 3/26/52 complaining of upper abdominal pain and vomiting.

For ten years p.t.a. (prior to admission) she had had periodic attacks of right upper quadrant pain which came on suddenly, did not radiate, and which were always accompanied by vomiting bile-stained material. The pain was always intermittent and colicky in nature and lasted for about a few hours to a day. A period of years usually lapsed between attacks, her last one occurring two years before the episode that brought her into the hospital. There was no definite history of fatty food intolerance, but no excessive eructation or flatulence. The patient had been on no special diet, ate well and had lost no weight recently. She never had jaundice or clay-colored stools. The day before admission she had felt fine. However, at 1:00 A.M. on the morning of admission, the patient was awakened by another similar attack of upper abdominal pain with vomiting of bile-stained material. Though the pain was not as severe as in previous attacks, the vomiting was almost constant and by 5:00 P.M., the daughter noticed it had become brownish in color and had a definite fecal odor. She had no bowel movement since this last episode started.

Her past history reveals that 8 years p.t.a. she had a D and C with radium implants for adenocarcinoma of the corpus uteri. One year ago she was again examined because of spotty vaginal bleeding and found to have adenopapillary carcinoma of the cervix, Grade II and III. Apparently she was not treated for the latter.

Six and a half years p.t.a. she had a slight "stroke" and was left with some stiffness and limitation of movement of the right hand.

There was no history of hypertension, or kidney trouble. She had mild exertional edema with occasional ankle edema in recent years.

Physical Examination T. not recorded. P. 70 minute. B.P. 120/70. The patient was an emaciated, dehydrated, acutely ill, old, white female, who was slightly disoriented. The skin was dry and inelastic and the mucous membranes dry. The sclerae were clear, the pupils round, regular and equal, and reacted well to light and with accommodation. EOM were normal. The ears were normal, the mouth edentulous, the tongue dry and coated and the pharynx pale. There was no nuchal rigidity. The breasts were flabby and free of masses. No axillary nodes were present. The lungs revealed the presence of moist rales in both bases. The heart was enlarged outside the MCL in the 5th I.C.S. A2) P2. Auricular fibrillation was present and there was a harsh systolic murmur at the apex. The abdomen was moderately distended and tympanitic with slight tenderness and resistance across the lower abdomen, but no definite palpable mass. The bowel sounds were hyperactive, but normal in quality. The liver edge was felt 2 F.B.'s down and there was no tenderness in the gallbladder region. The introitus was senile, and the cervix scarred, with blood oozing from the os. The uterus was not made out, but on rectal examination an immovable, firm, non-tender, irregular mass pressing on the anterior wall was palpated. There was a 1+ pitting edema of the ankles bilaterally. During the examination the patient vomited about 1500 cc. of light brown, fecal smelling fluid.

Course in the Hospital A flat plate of the abdomen revealed a lower small intestinal obstruction. Wangensteen suction was started, I.V. fluids administered, and digitalization was begun. Four hours after

admission the patient went into shock-pulseless, cold, clammy and cyanotic—and, 10 minutes later, ceased to breathe.

Laboratory Data 3/26/52—Hgb. 10.5 gms. WBC=9,500 with 65% neutrophiles. 35% lymphocytes.

Case presented from the wards of the Fourth Medical Division, Bellevue Hospital, Dr. Charles Wilkinson, Dir.

Write your own clinical impression or formulation here, if you wish.

Pathological Findings

The intestinal obstruction was caused by impaction of a large gallstone in the terminal ileum. The stone had passed into the gut through a *cholecysto-duodenal fistula*. The chronic inflammatory appearance of the fistula suggests that it may have been of considerable duration. If so, it is not clear why *gallstone ileus* should appear at this time. The present instance, aside from the pathologic changes, illustrates certain typical features of the disease, its occurrence in aged females and bad prognosis (1).

Although the presence of tumor could not be established grossly, sections of the myometrium demonstrate clearly the persistence of a well-differentiated *adenocarcinoma of the corpus uteri*. The tumor had not invaded extra-uterine structures.

Reference

1. P. Nemir, Jr., Gallstone Ileus. Report of Eight Cases. Surg; Gyn; and Obstet., 94:469, 1952.

Tumors Of the Hand

Part Three

Other Pre-Malignant and Malignant Lesions

Senile Keratosis Senile keratoses are common lesions occurring usually on areas of the skin exposed to sunlight, namely the face and the dorsum of the hand. They are flat or slightly-raised, rough-surfaced, scaly, firm, brown lesions, with irregular margins (Figure 18). They vary in size, and are frequently multiple. When the scale is scraped or "picked" off, a rough, bleeding or oozing surface is seen. Some of the lesions occur in young individuals, but most are in elderly people who are constantly exposed to sunlight and have a dry, harsh skin that has a tendency to fissure and "freckle"—the so-called "farmer's skin" or "sailor's skin."

Histologically (Figure 19), the lesions show hyperkeratosis, with parakeratotic columns. The prickle cell layer may show areas of atrophy and atypical cell changes. The upper corium is frequently infiltrated by numerous lymphocytes and plasma cells, and its blood vessels are dilated and increased in number.

The fate of senile keratoses is variable. They occasionally spontaneously drop off and disappear. They may grow slowly and persist for months or even years with little change in appearance. Probably about 20% of the senile keratoses that are allowed to persist eventually undergo carcinomatous change, usually developing into squamous cell carcinomas. The development of a red ring of inflammation around the lesion is frequently a warning signal of malignant change. It is important to differentiate senile keratoses from senile verrucae which rarely become malignant (see below).

Single senile keratoses and multiple ones with ample normal skin between them are best treated by wide surgical excision with primary suture. Large keratoses and multiple ones close together may be removed under local anesthesia by electrodesiccation, by thorough freezing with solid carbon dioxide ("dry-ice"), or by curettage followed by trichloracetic acid or salicylic acid. Lesions with obvious rings of inflammation around them should be widely excised with the cold knife, and the defect closed by suture if possible, or by skin graft if necessary. The tissue removed should be examined histologically, and if malignant change is found, further treatment as outlined below for malignant

FIG. 18

FIG. 19

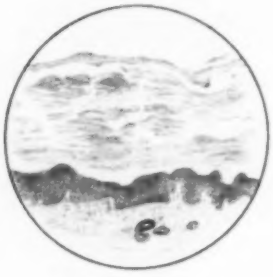


FIG. 20

FIG. 21

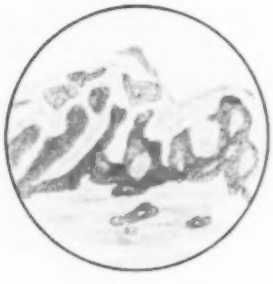


FIG. 22

FIG. 23

Figure 18. Senile keratoses on the dorsum of the hand.

Figure 19. Microscopic appearance of senile keratosis.

Figure 20. Senile verruca on the dorsum of the hand.

Figure 21. Microscopic appearance of senile verruca.

Figure 22. Cutaneous horn.

Figure 23. Microscopic appearance of cutaneous horn.

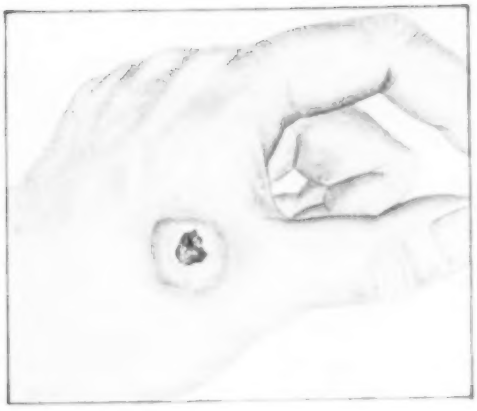


Figure 24. Small ulcerative squamous cell carcinoma.

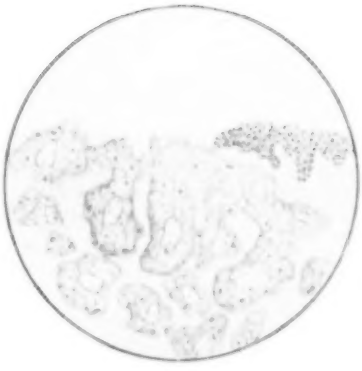


Figure 25. Microscopic appearance of squamous cell carcinoma.

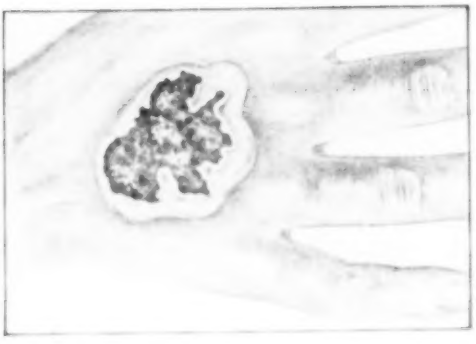


Figure 26. Large ulcerated "cauliflower-like" squamous cell carcinoma.

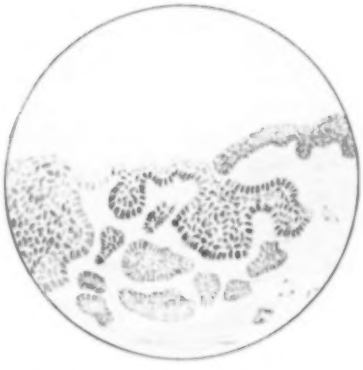


Figure 27. Microscopic appearance of basal cell carcinoma.

lesions should be promptly undertaken. X-radiation and radon implantation are satisfactory for lesions on the face, but they are to be avoided on the hand, as previously mentioned.

The patient who has been treated for senile keratoses should be instructed to keep his skin shielded from the sun's rays, by a broad-brimmed hat for the face, and gloves for the hands, and to keep his skin soft with lanolin or another bland ointment, in an effort to prevent the development of new lesions.

Cutaneous Horn This lesion frequently results from massive hyperkeratosis of a senile keratotic lesion. It may develop from other lesions, such as warts, scars, sebaceous cysts, calcifying epitheliomas, etc. It is a firm, rough, horny projection resembling the horns of cattle (Figure 22).

Histologically, the cutaneous horn is characterized by elongated and hypertrophied papillae at the base. The horn itself is composed of large columns of anuclear corneous cells arranged over the papillae in folded laminae (Figure 23).

A large percentage of these lesions de-

velop into aquamos cell carcinomas; therefore, they should be prophylactically excised.

Senile Verruca The senile verruca is a sharply marginated soft papillomatous lesion, with a greasy surface scale. It may be light tan to dark brown in color (Figure 20). The lesions are most common in elderly people, are frequently multiple, and have a predilection for the trunk. They occasionally occur on the face and hand, where they may be confused with senile keratoses.

Histologically (Figure 21), there is acanthosis with the thickened epithelial layer being papillomatous. The thick epidermis contains a network of deep-blue-staining cells with keratin "cysts." The basal cells contain varying amounts of pigment. The dermal papillae are elongated and their blood vessels are dilated. There may be a mild lymphocytic infiltration of the upper dermis, but this is not as marked as it is in the senile keratosis.

The lesions frequently persist without change in size or appearance for many years. In contrast to the senile keratoses, the senile verrucae very rarely become malignant, but they may develop into pigmented or non-pigmented basal cell carcinomas, or rarely squamous cell carcinomas.

The treatment of these lesions is excision with the cold knife or with the actual cautery.

Keloid A keloid is an overgrowth of fibrous tissue in a scar. It is the result of trauma, for example, laceration, burn, acne, etc. Keloids are most commonly seen in the colored races, but occasionally occur in the white race, especially in children. The lesions are seen usually in the most-frequently traumatized areas of the body, for example, the hands, arms, face, and chest.

They are raised, red, shiny, skin lesions (Figure 28) which develop slowly over a matter of months following injury. They are frequently asymptomatic, except for disfigurement, but may itch, burn, and be painful or tender.

Histologically, a keloid is characterized by dense bundles of hyalinized fibrous connective tissue covered by thin epithelium. Blood vessels and lymphatics are abundant, but hair follicles and glands are absent. There may be a chronic inflammatory reaction in the depths of lesion.

The growth of these lesions is slow but those repeatedly traumatized may after a long period of time—usually many years—develop into carcinomas, which are usually basal cell in type.

Treatment of disfiguring or symptomatic lesions and those that are subjected to frequent trauma consists of excision, with primary closure, or skin graft if needed. Post-operative X-radiation has been advised to prevent recurrence, but this is not well-tolerated on the hand. Recently ACTH in doses of 50 mgm. twice a day for three weeks post-operatively has been advised to prevent reformation. Hyaluronidase with cortisone injected directly into the keloid has proven helpful in relieving burning and pain, but does not appreciably affect the appearance of the lesion.

Squamous Cell Carcinoma (Epidermoid or Prickle-Cell Carcinoma)

This is the most common malignant tumor of the hand. In a large series of skin cancers in all sites, about 40% were squamous cell, and 60% were basal cell. However, in this group 86% of the skin cancers on the hand were squamous cell, and only 14% were basal cell.

Squamous cell carcinomas have a predilection for the face, ears, scalp, genitalia, and dorsum of the hand and fingers. They occur most commonly in patients past middle age, and affect males three times as often as females. About half are believed to arise from pre-existing lesions, such as senile keratoses, cutaneous horns, arsenical keratoses, x-ray burns, chronic ulcers, sebaceous cysts, edges of osteomyelitic sinuses, etc. They have been seen to develop in susceptible individuals as a

Figure 28. Large keloid on dorsum of hand.

result of long-continued exposure to sunlight and to certain chemicals, for example, some coal tar products, and products of the oil-cracking process.

There are essentially two varieties. The ulcerative type (Figure 24) appears as an indurated irregular ulcer with raised edges and a necrotic base that is frequently infected and often covered with a crust. This type is inclined to be more rapidly destructive, extending peripherally, and metastasizing earlier. The "cauliflower" type (Figure 26) is a heaped-up fungating lesion that tends to grow up more readily than it does peripherally, and is thus less destructive locally and metastasizes later. Both types metastasize rather late, however, and can be cured if treated early. Metastasis occurs in about 15% of cases followed over a long period of time.

Histologically (Figure 25), squamous cell carcinoma is characterized by deep finger-like projections of large atypical epithelial cells into the dermis and subcutaneous tissue. Numerous masses of epithelial cells are seen in whorl-shapel patterns with central keratinized "pearls."

Diagnosis of large suspicious lesions can be established by biopsy which carries with it little danger of dissemination if positive lesions are treated definitively as soon as the biopsy report is obtained. Palpation of epitrochlear and axillary regions for presence of enlarged lymph nodes should always be performed.

Treatment of small suspicious lesions and of large proven lesions consists of wide excision, including at least one centimeter of normal tissue all around, followed by primary closure or skin graft if required. Dissection of axillary or epitrochlear lymph nodes should be considered, but is obviously not an office procedure. Only rarely is amputation necessary.

These lesions ssould not be destroyed by desiccation or cautery, since incomplete removal is frequenlty followed by rapid extensive growth.

X-radiation which is frequently satisfactory in other locations, should be used on the hand only as a palliative measure in far-advanced lesions.

Basal Cell Carcinoma (Rodent Ulcer)

This tumor, while it is more common on the body as a whole than squamous cell carcinoma, is considerably less common on the hand, but does occur. Like squamous cell carcinoma, it is more common in men, after middle age, and frequently results from a pre-existing (precancerous) lesion. Basal cell tumors are more slowly growing lesions than squamous cell tumors, and rarely metastasize. They are characterized by ulcers with heaped-up hard "pearly" edges, and waxy or crusted centers. They occasionally bleed slightly, and may become infected. Frequently they are difficult to differentiate clinically from squamous cell carcinomas, and indeed, combined basal cell-squamous cell lesions do occasionally occur.

Histologically (Figure 27), basal cell carcinoma is characterized by epidermal and sub-epidermal cords and masses of cells with deeply-basophilic nuclei. Each mass has well-defined margins with a palisaded peripheral row of cells. Some of the lesions are pigmented. Invasion is

less prominent than in squamous cell lesions. Treatment is, as for squamous cell lesions, wide excision. Radiation, while helpful, is to be avoided on the hand.

(This presentation will be concluded in the next issue.)

Placental Blood Serum Found To Aid Arthritis

Placental blood serum produces rapid, marked and sustained improvement in the systemic and local manifestations of rheumatoid arthritis in some instances, it was reported in a recent *Archives of Internal Medicine*, published by the A.M.A. Placental blood serum is obtained from the afterbirth.

In 10 of 15 cases so treated, improvement was maintained without further therapy for six months, according to Dr. Morris Spielberg, Brooklyn. Dr. Spielberg, associated with the arthritis clinic, department of medicine, Jewish Hospital of Brooklyn, stated that further observation is required to determine the duration of this improvement.

He pointed out that best results were obtained in patients in the premenopausal group, and in those with a history of short duration of the disease.

The patients studied were women with active rheumatoid arthritis for periods ranging from two to 31 years; their ages ranged from 26 to 75 years. They were given the serum intravenously in varying amounts for periods up to 10 weeks.

"There was definite improvement noted in 67 per cent of the cases," Dr. Spielberg reported. "This improvement began as early as the second day in three cases. Nine patients noted improvement within the first week, and one began to improve on the 10th day.

"In those patients who responded to treatment, there was definite reduction of stiffness and pain on active and passive motion, and also of articular [joint] and periarticular [around the joint] tenderness. In addition, there were varying degrees of reduction of muscle spasm and joint swelling. There were definite improvements in muscle tone and increased joint mobility except for the limitations imposed by fibrous and bony ankylosis [fusion of a joint].

"No new process of intra-articular or extra-articular nature developed. There was an increased sense of well-being, more restful sleep, improved appetite, and improved functional capacity and ability to carry on duties. The anxious tense facies [appearance of the face] disappeared. There was no significant change in weight, blood pressure, blood chemistry, menstrual cycle, or urinary findings."

Of the 15 patients treated with placental blood serum, Dr. Spielberg stated, three (20 per cent) had complete remission of the disease, three (20 per cent) showed major improvement, four (27 per cent) showed minor response, and five (33 per cent) showed no response.

"The patients with no response were in the postmenopausal age group, with ages varying from 56 to 75 years," he said. "The duration of their disease varied from six to 31 years.

"The active therapeutic principle in placental blood serum is unknown. The results obtained indicate that the active principle is not cortisone or corticotropin [which have been used to treat the disease], because treatment can be discontinued without maintenance therapy, and no toxic side-effects are noted."

EDITORIALS

Minorities Into Majorities

John Hodgdon Bradley, in his *Patterns of Survival: An Anatomy of Life* (Grune and Stratton), points out that "minorities of men have already demonstrated—in laboratories, hospitals, churches and schools—a capacity for extending the welfare of men as individuals. Should majorities," Bradley continues, "intelligently and sincerely attempt to extend the welfare of man as a species, who can say what dream might not possibly come true?"

Medicine today offers to its votaries the best of opportunities for the self-fulfillment of one's individual genius and this group is one constantly growing in influence upon its own members and upon society. Medicine is "pulling its own weight" and building "majorities" in the general cause of human welfare and medical men are conscious of the objectives that Bradley holds before us. This way of life is the "pursuit of happiness" in the sense that Thomas Jefferson used the phrase which appeared in the Federal Constitution.

"A rational pursuit of personal happiness," says Bertrand Russell, "if it were common, would suffice to regenerate the world."

Medical Humanist or Technocrat?

It seems to us that the most significant passage in Clark and Collins' discussion of general practice in *The New England Journal of Medicine* is the one that runs as follows:

> "The analysis offers a detailed account of the medical and surgical diagnostic problems with which the general practitioner is likely to be confronted. It also suggests the frequency with which they may occur, *and claims for the well trained general practitioner the capacity of satisfactorily dealing with most of them.*"

The qualified and conscientious general practitioner studies every ill *individual* from all reasonable angles; all his knowledge and know-how is bestowed upon a particular patient. He must be judged on this performance, not by the criteria that seemingly demand that he must invariably be on the intellectual level of a Saint Thomas Aquinas or the clinical level of an Osler.

Even the well-meaning authors in question seem at times to conceive of the general practitioner is a paragon of medical technocracy rather than as a medical humanist.

Isn't it about time that the general practitioner trumpeted his part in the extraordinary fall in mortality? Who, if not he, is largely responsible for the phenomenal advancement of life's expectancy?

Calling All Manufacturers!

It would be difficult to exaggerate the precariousness of our seventy-nine accredited medical schools' financial status; their revenues from all sources fall short about $10,000,000 of budgetary requirements. There is a shortage of hundreds of teachers because adequate salaries cannot be paid. All of which means a lowering of the standards of future medical practice.

Governmental aid cannot be accepted for obvious reasons; the entry of politics into the problem would mean a still faster rate of deterioration.

What is needed is the further support of industry; and that branch of industry most dependent on good medicine, and from which the medical schools have already derived substantial aid, is pharmaceutical manufacturing.

Verbum sat sapienti.

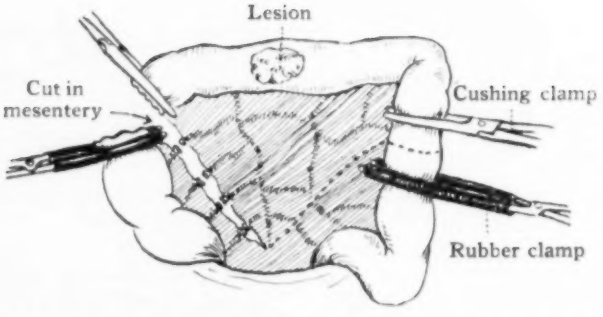
Public Enemy Number One

According to Mr. Edward J. McGoldrick, Jr., Director of New York City's Bureau of Alcoholic Therapy, it costs $1,500 to $3,000 a year in hospitalization, imprisonment and welfare grants to deal with untreated alcoholics.

High taxes on alcohol are increasing the production and consumption of bootleg liquor enormously, the amount now about equalling that of legal booze. The tax is $10.50 a gallon on 100-proof alcohol.

It seems to us that the three leading dangers to this nation are the abuse of alcohol, legal and illegal, the shortage of teachers, and well-intentioned but hysterically based and expressed political motivations. Of these menaces we rank first the abuse of alcohol.

Clini-Clipping



Method of excising involved portion of bowel before making an intestinal anastomosis.

MEDICINE

MALFORD W. THEWLIS, M.D.*

Heparin in the Treatment of Advanced Peripheral Atherosclerosis

H. Engelberg and T. B. Massell (*American Journal of Medical Sciences* 225:414, Jan. 1953) report the use of heparin given intravenously in the treatment of 13 patients with severe peripheral atherosclerosis, which had been present several years in most cases. In all cases there was no palpable arterial pulse at the popliteal or at the ankle level; and the oscillometric index below the knee was reduced. Eight of these patients also had coronary atherosclerosis. Various methods of vasodilator therapy had previously been tried on most of these patients; 5 patients were on a strict low fat, low cholesterol diet, and this was not changed. One had previously had a unilateral lumbar sympathectomy. Heparin was given intravenously in a dosage of 100 mg. two or three times weekly, although on beginning treatment this dosage was given daily for a month in some cases. As determinations of the anticoagulation time after an injection of heparin showed that the anticoagulant effect lasted only four to seven hours, and the greatest prolongation of the clotting time was sixty minutes, it was concluded that when heparin is given intermittently, it is not necessary to determine the coagulation time after every injection. The heparin therapy caused no serious toxic reactions, and no hemorrhage. The digital blood flow was determined by means of the digital plethysmograph in 14 extremities in the 13 patients. In 3 extremities the increase was so slight as to be "within the limits of accuracy of the method"; in 3 cases there was a decrease in the digital flow recorded, but definite improvement in walking tolerance was noted in 2 of these cases; in 8 extremities there was a definite increase in digital flow from 35 to 100 per cent, and over 100 per cent in all but 2 instances. As blood flow through muscles cannot be measured directly in human beings, the walking tolerance test was used to determine changes in muscle flow; for this test, the patient walks in a level corridor at a given rate until cramping or other discomfort occurs in the affected leg; an increase in the distance he is able to walk indicates an increase in muscle blood flow. In 4 patients the walking tolerance test was not performed because 2 of these patients did not have intermittent claudication, in one there was cardiac angina, and in one claudication in the other leg. All but 2 of the 10 extremities in which muscle flow could be tested showed an increased walking tolerance of 17 to 800 per cent. This was a greater improvement than has been observed with other forms of treatment, including lumbar sympathectomy. In most cases this improvement occurred progres-

Thewlis

* Attending specialist in general medicine, United States Public Health Hospitals, New York City; consulting physician, South County Hospital, Wakefield, Rhode Island; special consultant, Rhode Island Department of Public Health.

sively and steadily during the period of treatment. Eleven of the 13 patients had intermittent claudication, and were symptomatically improved. While the mechanism of action of heparin in peripheral atherosclerosis is not yet fully explained, the authors conclude that their results in this preliminary study indicate that the administration of heparin by the intermittent method is "a promising form of therapy" in this condition.

COMMENT

This seems to be a promising form of therapy for peripheral atherosclerosis. Experiments should be extended on this treatment.

M.W.T.

The Value of Intravenous Procaine Amide in the Treatment of Tachycardias

R. T. Kelley and associates (*American Heart Journal*, 44:851, Dec. 1952) report the use of procaine amide given intravenously in the treatment of tachycardia of various types. In 5 episodes of ventricular tachycardia in 4 patients, the procaine amide was effective in restoring normal rhythm in all instances; in all but one case a dosage of 300 mg. was sufficient; one patient required a total of 2.5 Gm. in divided doses. In 12 episodes of supraventricular tachycardia in 8 patients, normal rhythm was restored in 8 episodes in 4 patients; 3 of the 4 patients had paroxysmal atrial tachycardia, and procaine amide was effective in 6 attacks in one of these patients. But 2 patients with atrial tachycardia with a 2:1 block in this group of supraventricular tachycardias did not respond to procaine amide; isolated ventricular aberration developed in one of these cases. In 4 cases of recent atrial fibrillation with rapid ventricular rate, normal sinus rhythm was restored with procaine amide in only one case; in 2 cases atrial flutter developed. On the basis of these results, the authors conclude that procaine amide is the "drug of choice" in the treatment of tachycardias of ventricular origin as it can be safely given intravenously and has a rapid action; it had no ill effect in cases with recent myocardial infarctions. Although the cases of atrial tachycardia treated where too few to permit definite conclusions to be drawn, the results indicate that procaine amide is effective in the usual type of paroxysmal atrial tachycardia, where its chief advantage is its rapid action. In other forms of supraventricular tachycardia, procaine amide is not to be recommended. If procaine amide is used in cases of atrial fibrillation with a rapid ventricular rate, the patient should be digitalized before its use, as is also recommended with quinidine sulfate in these cases.

COMMENT

Intravenous procaine is effective in the treatment of tachycardia of ventricular origin. A friend of mine in Brazil is using intravenous procaine extensively, especially for pain. He finds it relieves pain in leprosy.

M.W.T.

Treatment of Essential Hypertension with the Hydrogenated Alkaloids of Ergot

R. F. Grenfell (*American Practitioner and Digest of Treatment*, 4:39, Jan. 1953) reports the treatment of 22 patients with essential hypertension with Hydergine, a new preparation containing three hydrogenated alkaloids of ergot. Hydergine was given by intramuscular injection three times a week, at first; later the frequency of injections was gradually diminished; the usual dosage at each injection was 1 cc.; when a dosage of 2 cc. was occasionally used, it was not found to be more effective than 1 cc. In all the patients treated the blood pressure has been definitely reduced; the maximum decrease in systolic pressure was 80 mm. mercury, the average 43 mm; the maximum decrease in diastolic pressure was 43 mm. mercury, and the average decrease 22 mm. In some cases the minimal blood pressure was not maintained until after two months' treatment. In some of these patients other methods of treatment had failed to reduce the blood

pressure. All the patients stated that under treatment with Hydergine they felt better; such symptoms as headache, dizziness, and "throbbing" in the blood vessels of the head were relieved. There were no serious side-effects; only 3 of the patients noted any side-effects—"stuffiness" in the nose and mild transitory weakness. The author considers that Hydergine "provides a safe means of treating essential hypertension."

COMMENT

Interesting observations; worth trying.

M.W.I.

Varicella Pneumonia

S. Saslaw and associates (*A. M. A. Archives of Internal Medicine*, 91:35, Jan. 1953) report 3 cases of pneumonia complicating chickenpox observed within five months at one hospital. All the patients were adults; the bilateral nodular infiltration of the lungs shown on x-ray examination was similar in the 3 cases; but physical examination showed few signs of pulmonary involvement, in contrast to the roentgenological findings. Repeated examination of the sputum showed no pneumococci, streptococci, or other pathogenic bacteria; serologic studies were negative for primary atypical pneumonia, Q fever and psittacosis. The improvement in the pulmonary condition "paralleled" the improvement in the skin lesions in these cases, and the pneumonitis was "in all probability" caused by the varicella virus. Only a few cases of varicella pneumonia have been reported, as a review of the literature shows, all occurring in adults, but it should be recognized that chickenpox may be a severe disease. In the authors' cases treatment was primarily supportive, although penicillin was used in 2 cases and aureomycin in one case. This may have prevented secondary bacterial infection, but the authors do not attribute the recovery of their patients to any "specific action" of these antibiotics on the varicella virus.

COMMENT

Some of the simple infections turn out at times to be capable of doing considerable damage.

M.W.I.

Oral Sodium L-Thyroxine in the Treatment of Myxedema and Cretinism

W. T. Salter and Ira Rosenblum (*American Journal of Medical Sciences*, 224:628, Dec. 1952) report the use of L-thyroxine given by mouth in the treatment of cretinism in children and myxedema in adults resulting from surgical and radio-iodide treatment of thyroid tumors. The lowest daily dose in this series was 0.025 mg. in a six weeks old boy with cretinism. The highest daily dose was 0.4 mg. in one adult patient. For adults and older children L-thyroxine was given in tablet form (each tablet 0.1 mg), with water, an hour before meals. For younger children smaller tablets were used and each tablet was crushed in a teaspoonful of water, or for infants mixed with water or the feeding formula in the nursing bottle. All the children with cretinism and growth retardation showed a rapid response to medication, and the usual improvement in activity and personality observed with thyroid therapy. In the adults, the symptoms of hypothyroidism were rapidly relieved. In all cases the medication resulted in a rise of serum "hormonal" iodine at a uniform rate, indicating that about two-thirds of the L-thyroxine given by mouth is assimilated. The L-thyroxine preparations employed have the same effect as Thyroid, U. S. P., but the chief advantage of such synthetic products is their "uniformity."

COMMENT

Worthy of further trial.

M.W.I.

Cortisone Therapy of Penicillin Reactions

Jeff Davis (*New York State Journal of Medicine* 53:69, Jan. 1, 1953) reports the

use of cortisone in 5 patients with penicillin reactions that were resistant to other methods of treatment. The dosage of cortisone was 50 to 100 mg. (one or two doses of 50 mg.); the itching and other subjective symptoms were relieved within six to eight hours after the first injection of cortisone; improvement in the skin lesions was also noted early and these lesions cleared up completely within twenty-four to forty-eight hours. There was no recurrence in any case. The fact that so small a dosage of cortisone is effective in cases of penicillin reactions that do not respond to the usual methods of treatment indicates that its use is safe and "an appropriate therapy" in such cases.

COMMENT

Good therapy. Should be used more frequently. M.W.T.

SURGERY

BERNARD J. FICARRA, M.D.*

Results in the Treatment of Carcinoma of the Colon and Rectum

R. S. Grinnell (*Surgery, Gynecology and Obstetrics*, 96:31, Jan. 1953) reports a study of five year survivals in 1,667 patients admitted to the Presbyterian Hospital, New York, in 1916 to 1945 (inclusive) with carcinoma of the large intestine; 890 had cancer of the colon and 777 cancer of the rectum. With improvements in methods of anesthesia, surgical technique and pre- and postoperative care of the patient the resectability rate for cancer of the colon increased from 50 per cent (in 1916 to 1920) to 92.1 per cent in 1945 to 1950; and in the same period the resectability rate for cancer of the rectum increased from 65.7 per cent to 83.3 per cent. The operative mortality rate decreased from 31.3 per cent to 5.3 per cent for cancer of the colon and from 40.9 per cent to 6.7 per cent for cancer of the rectum. The "absolute" five-year survival rate for all the patients with carcinoma of the colon admitted in 1916 to 1945 was 27.4 per cent, and for the patients with cancer of the rectum, 25.6 per cent. In the cases in which "curative" operations (radical resections) could be done for cancer of the colon, the five-year survival rate was 45.5 per cent, and for cancer of the rectum 64.4 per cent. Where node metastases were present at operation the five-year survival rate was 36.7 per cent in cancer of the colon and 34.6 per cent in cancer of the rectum. Where node metastases were not present, the five-year survival rates were 67.9 per cent and 67.4 per cent respectively. Although this study shows that the "absolute" five year survival rate of patients with cancer of the large intestine has increased in the past thirty years, this is largely due to the increase in the resectability rate and the decrease in post-operative mortality. But these statistics do not indicate any recent improvement in the "surgical attack" on the cancer itself. In fact, it was found that there

Ficarra

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was a decrease in the survival rate following curative resections of cancer both of the colon and of the rectum in the 1941 to 1945 period, which is attributed to the fact that such resections were more frequently done on more advanced growths that were not curable. In the author's opinion, this should not deter surgeons from doing such radical resections even if the curability of the tumor is "undetermined."

COMMENT

This excellent review on cancer of the lower bowel indicates the value of early diagnosis and resection for cancer. The cancer patient can now be encouraged and may look forward to many useful years after adequate treatment. This fact is a compliment to the advances made in American surgery, anesthesia and medicine which have made the patient safe for radical surgery and have given him expert postoperative care.

B.J.F.

A New Excursion into Ether Anesthesia

R. B. Lynch (*Medical Journal of Australia*, 39, pt. 2:808, Dec. 6, 1952) describes a new method of ether anesthesia, which has been used in 300 cases with "eminently satisfactory" results. With this method, a modification of the Hitz apparatus is used. Oxygen from the cylinder is heated in a coil and passed through the ether; the amount of ether delivered to the patient can be controlled in several ways; by regulating the rate of oxygen release; by the use of an indicator on the lid of the ether jar which shows the number of tubes through which the oxygen passes into the ether and by which the amount of oxygen and ether used can be controlled; by varying the temperature of the water in the heating coil; by varying the depth of the ether in the ether jar. In some of the series of cases reported "Carbogen" was used instead of oxygen, and in the latter part of the series was given preference. For conducting the ether-oxygen mixture to the patient, a nasal attachment is used with two catheters that deliver the mixture over the glottis; several sets of these attachments are available for patients of different ages and sizes. When properly adjusted they remain in place without fixation; no mask is used. While the method of anesthesia described has been used for all types of surgery, it has been found especially useful for operations on the throat, head and neck and for upper abdominal surgery. With the apparatus described, the patient is well oxygenated throughout the operation and is returned to the ward "rosy-cheeked" and in the best possible condition. The amount of ether used is definitely reduced. The apparatus is silent; no electricity is required for its operation and when once properly adjusted "requires no attention save a casual glance."

COMMENT

Ether, one of the first anesthetic agents, still remains one of the safest. It is gratifying to read such an article as Dr. Lynch's which brings to mind and recalls to our fading memory that ether remains one of the best anesthetic agents from the point of view of both the anesthetist and the surgeon.

B.J.F.

The Technic of Adequate Common Duct Exploration Using a New Type Flexible Probe and Dilator

J. H. Clark (*American Surgeon*, 19:33, Jan. 1953) describes a method of common duct exploration on the operating table, using a flexible tube and dilator of a new type. Surgical exploration of the common duct is absolutely indicated if stones are palpated in the duct, if jaundice is present or there is a history of recent or repeated attacks, if the common duct is dilated or thickened, if the bile aspirated from the common duct contains sediment, if the gallbladder contains small stones and is chronically infected or the cystic duct is widely patent. Surgical exploration may be necessary ("relative" indications) if there is cholelithiasis and sub-clinical jaundice (elevated serum bilirubin), or if there are no stones in the gallbladder, but there is a history of biliary colic, or edema or induration in the head of the pancreas;

or if the gallbladder is dilated and cannot be emptied by "moderate" digital pressure. When the duct is incised for surgical exploration, aspiration of bile is done, and the 3 mm. flexible dilator is introduced and is passed into the duodenum if possible; the duct is palpated over the dilator for stones, and any stones found are removed. The sphincter of Oddi is then enlarged by passing graduated dilators up to the 7 mm. size. Following this, the 3 mm. dilator is passed into the hepatic ducts which are palpated over it. After the dilator is withdrawn, duct drainage is done by the technique described by Allan. If the dilator cannot be passed through the sphincter of Oddi, transduodenal exploration is necessary for which the flexible dilator is also used. Surgical exploration of the common duct should be done in all cases in which absolute indications noted above are present. In poor risk patients in whom the indications are not absolute, cholangiograms are made; preparation for such "operative" cholangiography must be made before operation, the operating table being equipped with a Bucky grid and a plate change.

COMMENT

The seasoned surgeon respects the gallbladder area more than any other area of the abdomen. He approaches gallbladder and common duct surgery with great respect and care. He does this not because he is timid but rather because his experience has taught him that it is very easy to cause severe damage in this area—damage which may result in a patient who is a surgical "cripple". Therefore any suggestion which will be of value in performing more careful surgery of the biliary tract is worthy of emphasis.

B.J.F.

Surgical Aspects of Blastomycosis

J. R. Levitas and G. L. Baum (*Surgery*, 33:93, Jan. 1953) report 9 cases of blastomycosis in which surgical therapy was employed; in all but 2 of these cases the operation consisted in excision of a skin lesion or multiple skin lesions followed by skin grafting. In all these cases the grafted area healed well and remained healed; in some of these cases, the pulmonary lesion also was arrested. In one case mid-calf amputation was done for osteomyelitis due to *Blastomyces dermatitis* with good results; the stump has remained healed for over a year and there was no evidence of pulmonary involvement. In one case in which there was a left posterior chest wall abscess in addition to pulmonary involvement, drainage of the abscess and excision of the involved portion of two ribs were done, but, although the incision healed well, the patient became progressively worse and died. From the results obtained in these cases and from a review of the literature, the authors conclude that surgical treatment of peripheral blastomycitic lesions is definitely indicated, because the removal of such lesions may result in the arrest of the primary lung infection; also because such lesions may be foci for further spread of the disease. Furthermore, skin lesions of blastomycosis if not excised become progressively worse, and may cause disfigurement; and if such lesions ulcerate they may be dangerous "from an epidemiological standpoint."

The Surgical Management of Ileocolitis

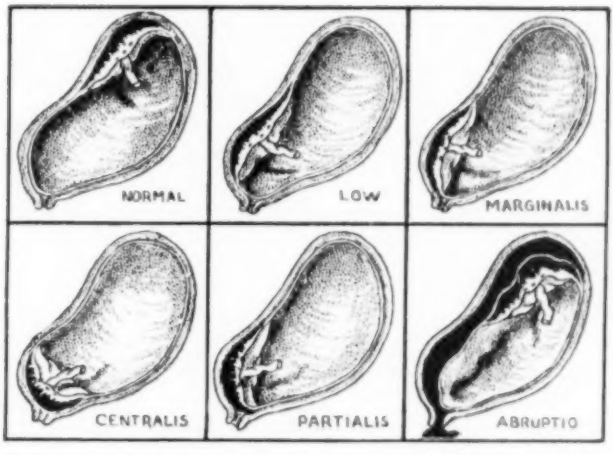
J. W. Hinton (*Bulletin of The New York Academy of Medicine* 28:714, Nov. 1952) reports a study of the surgical treatment of ileocolitis by pelvic autonomic neurectomy (section of the pelvic sympathetics and sacral parasympathetics). This operation was first done on dogs, and it was found that the procedure had resulted in "marked changes" in both the pattern of intestinal motility and the response of the colon to stimulation. This operation has been done on 12 patients with ulcerative colitis, in the first case over three years previous to this report. Study of these patients has shown that the pancreatic function is normally maintained following this operative procedure, while in patients in whom vagotomy had been done for duodenal ulcer, it was found that

the pancreatic function is "sub-normal," even after the administration of secretin. The author concludes that while he does not at present advocate the operation of pelvic autonomic neurectomy as the procedure of choice in all cases of ileocolitis in which surgery is indicated, the results in the cases in which this procedure has been used have led him to conclude that it should be employed in selected cases, including those with massive hemorrhage in the acute stage of colitis.

Acute Peptic Ulcers as a Complication of Surgery

W. V. McDonnell and J. F. McCloskey (*Annals of Surgery*, 137:67, Jan. 1953) report that in 1,781 consecutive autopsies at Jefferson Medical College Hospital in 1946 to 1950, there were 243 cases in which patients died within two months of operation not involving the central nervous system. Acute peptic ulcers, which had evidently developed after operation, were found in 8 of these patients, 3.24 per cent. It has also been reported by others that acute peptic ulcers develop after severe burns and in association with lesions of the central nervous system. No cases of severe burns are included in the Jefferson Medical College Hospital series, but in 109 patients who showed lesions of the central nervous system at autopsy, acute peptic ulcers were found in 5 patients, 2.78 per cent. These findings indicate that acute peptic ulcer is a more frequent postoperative complication than has been supposed. As in the case of acute peptic ulcers associated with burns and intracranial lesions, such postoperative peptic ulcers are to be considered as "simply one result of the body's exposure to stress."

Clini-Clipping



Positions occupied by the normal placenta, varieties of placenta previa and placenta abruptio.

MEDICAL BOOK NEWS

Radiology

Die Radio-Isotope. Eine Einführende Darstellung Ihrer Biologischen und Medizinischen Anwendung. By Dr. J. Hiller & Dr. A. Jakob. Munich, Urban & Schwarzenberg, [c. 1952]. 8vo. 256 pages, illustrated. Cloth, DM 32.-

This volume, published under the authorship of two physicians, Drs. Hiller and Jakob of the Radiation Institute of the Municipal Hospital of Nürnberg, is a good volume. The whole subject of radio-isotopes and their position in radiation therapy and in medical investigation is still in flux. No work, including this, can remain up to date for long. The German text is easy to read, the physics simplified and not beyond the understanding of the average physician in this field. The clinical data is sketchy but good in review. As in any other phase of radiation therapy, so too in radio-isotopes, the best information is still to be found in contemporary journals.

ASA B. FRIEDMANN

Cardiology

Atlas of Spatial Vector Electrocardiography. By J. Willis Hurst, M.D. & Grattan C. Woodson, Jr., M.D. New York, Blakiston Co., [c. 1952]. Long 16mo. 214 pages, illustrated. Cloth, $6.00.

Hurst & Woodson have been amazingly successful in clarifying a complex and difficult area of cardiology. The principles of vector cardiography are lucidly displayed and there are numerous illustrations of normal and abnormal vectorgrams. This will be a valuable addition to the library of everyone interested in heart disease.

MILTON PLOTZ

Surgery

Surgical Practice of the Lahey Clinic. By Members of the Staff of Lahey Clinic, Boston. Philadelphia, W. B. Saunders Co., [c. 1951]. 8vo. 1,014 pages, illustrated. Cloth, $15.00.

After ten years the Lahey Clinical Group has published the second volume of its *Surgical Practice*.

The present volume indicates vividly the expanding fields in all branches of surgery. It also demonstrates the many changes in types of surgical procedure which have been made possible by the advent of antibiotics, anti-thyroid drugs, modern laboratory techniques and new methods of anesthesia.

This volume has been written by Dr. Lahey and the numerous members of his staff, in the same simple, lucid, refreshing and inspiring style that characterizes the teaching at the clinic. This is the Lahey Clinic in your library. It is enthusastically recommended to all who are interested in surgery.

FREDERICK A. PIZZI

Physical Diagnosis

The Principles and Methods of Physical Diagnosis. Correlation of Physical Signs with Physiologic and Pathologic Changes in Disease. By Simon S. Leopold, M.D. With a chapter on **Sounds from the Thorax: Acoustic Principles.** By S. Reid Warren, Jr., Sc.D. in E.E. Philadelphia, W. B. Saunders Co., [c. 1952]. 8vo. 430 pages, illustrated. Cloth, $7.50.

This is a well-written and easily readable textbook of physical diagnosis. Meth-

—Continued on page 516

Help Truth Fight Communism

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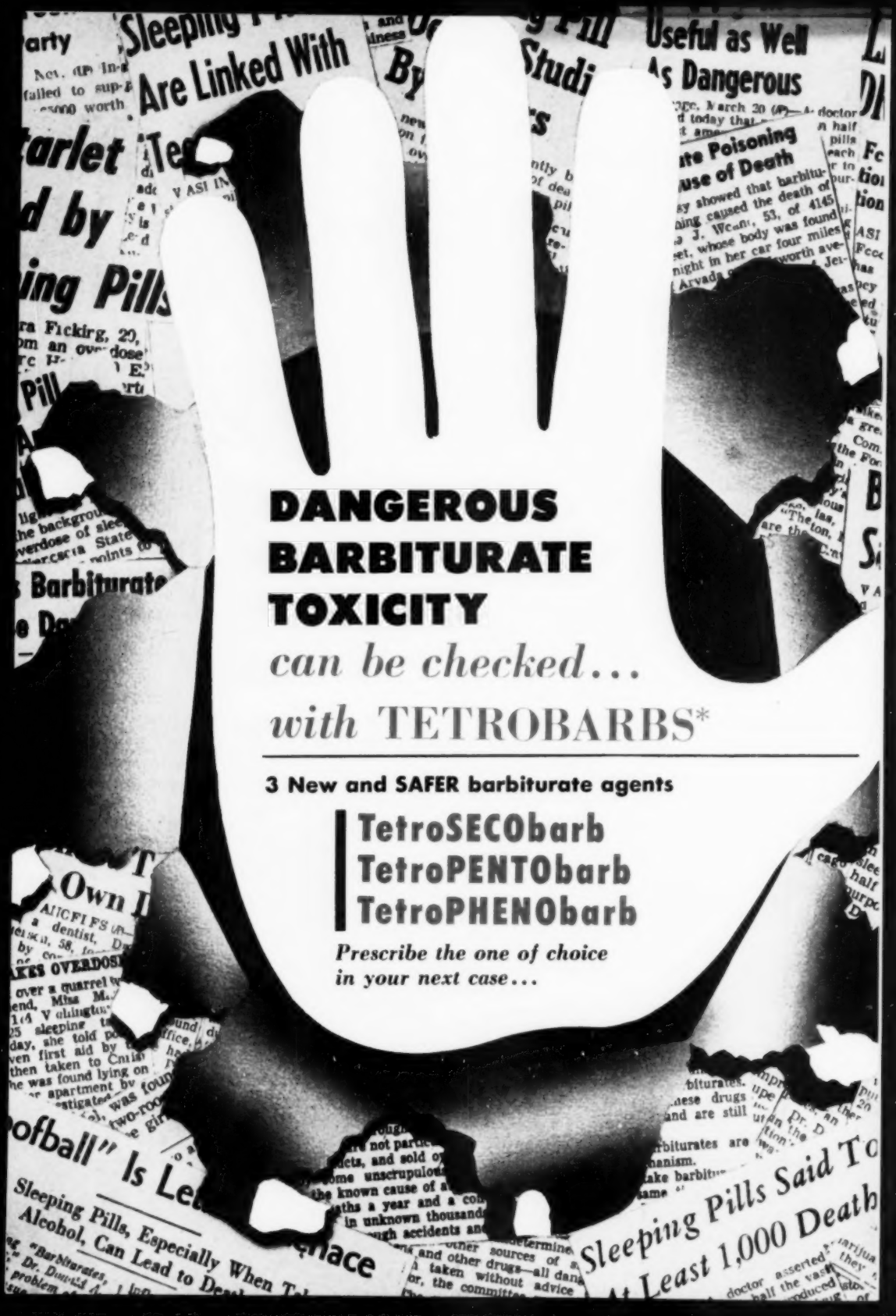
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Are Linked With
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1. Koppanyi, T., and Fazekas, J. F.: The Effects of Oral Administration of Pentylenetetrazol and Barbiturate Combinations, M. Ann. District of Columbia XXII: 175-176, (April) 1953.

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City Zone State

—Continued from page 512

ods of examination are excellently illustrated. The author has gone to great pains to include fine pictures of classical pathological aberrations. Throughout the book the findings on physical examination are correlated with physiological and pathological changes in disease states. This text will find favor with the medical students for whom it was written.

LEON M. LEVITT

Obstetrics

The Toxemias of Pregnancy. By William J. Dieckmann, M.D. 2nd edition. St. Louis, C. V. Mosby Co., [c. 1952]. 8vo. 710 pages, illustrated. Cloth, $14.50.

Although the cause and the definitive treatment of Toxemias of Pregnancy are as yet unknown, this second edition of Dr. Dieckmann's work brings us up to date on the progress of the last ten years toward the achievement of this goal since the publication of the first edition. Many of the older concepts have been given only passing notice or have been dropped entirely in this expanded and more profusely illustrated edition. This volume should be available to all who do obstetrics not only for its comprehensive compilation of our present day knowledge but also for its sound rejection of many of the horrible obstetrical practices of the past.

WINFIELD E. STUMPF

Dermatology

Practical Dermatology. For Medical Students and General Practitioners. By George M. Lewis, M.D. Philadelphia, W. B. Saunders Co., [c. 1952]. 8vo. 328 pages, illustrated. Cloth, $7.50.

For clinical diagnosis and up-to-the-minute treatment, here is a new text which can be highly recommended to students and physicians not too well acquainted with dermatological subjects. The work is short, yet covers twenty-five chapters, and is profusely illustrated by more than four hundred of the author's own photographs. Dr. Lewis' purpose was to augment the limited teaching of dermatology ordinarily given, and to furnish those interested, a not too elementary, yet brief and practical outline of the field.

The book contains a complete formulary of drugs most currently used, and a comprehensive bibliography.

ARTHUR M. PERSKY

Ophthalmology

Ophthalmic Pathology. An Atlas and Textbook. By Jonas S. Friedenwald, M.D. Helenor Campbell Wilder, A. Edward Maumenee, M.D., T. E. Sanders, M.D., et al. With the editorial assistance of Helen Knight Steward. Published under the Joint Sponsorship of The American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. Philadelphia, W. B. Saunders Co., [c. 1952]. 4to. 489 pages, illustrated. Cloth, $18.00.

This volume has been published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. It is the result of a tremendous effort by outstanding representatives of the best in ophthalmology and it contains all new photomicrographs of ocular pathology carefully selected from thousands of preparations from the Registry of Ophthalmic Pathology.

The text is of great value because relevant physiologic data and photomicrographs illustrate subjects rather than cases. The illustrations are printed magnificently and leave nothing to be desired, unless it be color.

The completeness of the text and subject matter, arranged so well and expounded so lucidly recommend the volume to all who are interested in ophthalmology. The path of the student will be greatly improved by the use of this new aid.

MORTIMER A. LASKY

—Concluded on page 518

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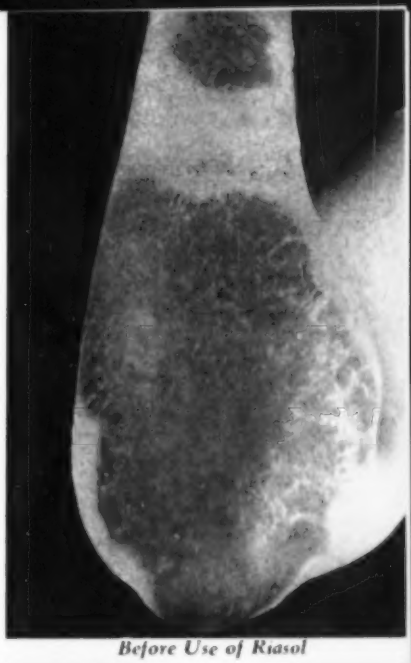

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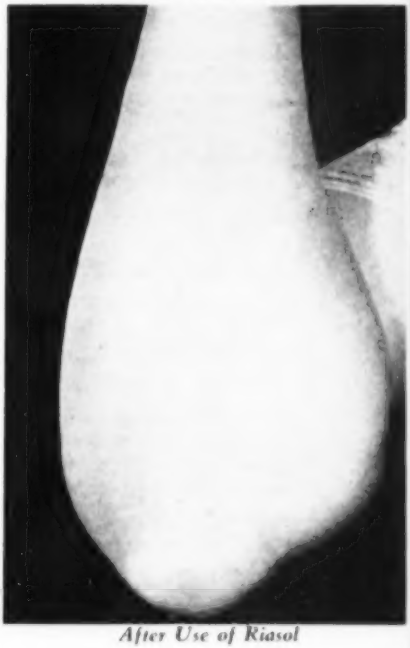

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RIASOL for PSORIASIS

—Concluded from page 516

Diagnosis

Physical Diagnosis. By Harry Walker, M.D. St. Louis, C. V. Mosby Co., [c. 1952]. 4to. 461 pages, illustrated. Cloth, $8.00.

Dr. Walker presents an excellent book on physical diagnosis. Its 432 pages are well written and extremely easy to read. Although relatively lacking in illustrations, its sections on neurology, psychiatry and sphygmomanometry are so well done as to make this book particularly valuable to the student and the practitioner. The chapters on respiratory diseases and the circulatory system are thorough. The book is highly recommended.

JULIUS E. STOLFI

Medicine—Surgery

Advances in Medicine and Surgery. From the Graduate School of Medicine of the University of Pennsylvania. Philadelphia, W. B. Saunders Co., [c. 1952]. 4to. 441 pages, illustrated. Cloth, $8.00.

This book is a "must" for all. It offers a post-graduate course which is worth many times the price of the book. It covers ten subjects from the fundamental and clinical points of view. The chapter on adrenal cortical hormones and the role of potassium in health and disease, and on newer aspects of medical and surgical treatment of hypertension are especially good and of timely interest. There is an excellent discussion on thrombo-embolism, anticoagulants and pulmonary embolism. As a matter of fact all ten subjects are well covered.

VINCENT ANNUNZIATA

Cardiovascular Disease

Diseases of the Heart and Arteries. Anatomical and Functional Disturbances of the Circulation. Treatment. By George R. Herrmann, M.D. Fourth edition. St. Louis, C. V. Mosby Co. [c. 1952]. 4to. 652 pages, illustrated. Cloth, $12.50.

The fourth edition of *Diseases of the Heart and Arteries*, by George R. Herrmann, is a revised and up-to-date presentation of the pathology, symptomatology and treatment of disorders of the circulatory system. The need for constant revision is apparent in view of the newer methods of examination and the modern surgical procedures dealing with heart disease. The chapter on coronary thrombosis is a detailed description of present-day knowledge respecting a disease which has made the world "heart-conscious." The chapters on differential diagnosis and military cardio-vascular examinations are very valuable and give the book a modern look.

SIMON FRUCHT

Metabolism

Diseases of Metabolism. Detailed Methods of Diagnosis and Treatment. Edited by Garfield G. Duncan, M.D. With Contributions by Walter Bauer, M.D., Hugh R. Butt, M.D., Abraham Cantarow, M.D., Frank Alexander Evans, M.D., et al. 3rd Edition. Philadelphia, W. B. Saunders Co., [c. 1952]. 8vo. 1,179 pages, illustrated. Cloth, $15.00.

This is the 3rd edition of this important book. Not only have the original contributors revised much of their material but new chapters have been added such as that on Carbohydrate Metabolism by Soskin and Levine, and Porphyrin Metabolism by Watson.

The work now assumes a more comprehensive aspect in covering the diseases of metabolism. Not only is pathological physiology of carbohydrate, protein, lipid, mineral, water and vitamin metabolism well presented, but the important clinical conditions, including undernutrition, obesity, gout, diabetes, hypoglycemia, renal and thyroid diseases are thoroughly discussed.

It is one of the best books on the subject.

W. S. COLLENS

MODERN THERAPEUTICS

Succinylcholine in Electric Convulsion Therapy

Succinylcholine proved to be effective as a short-acting muscle relaxant in electric convulsion therapy, according to Adderley and Hamilton in *Brit. Med. J.* [*#4804*:195 (1953)]. Although the drug was found to produce a rise in blood pressure, this was not found to be important since the convulsion also produces a similar rise. Autonomic ganglionic blocking agents could be used to block this hypertension, if desired, without reducing the effectiveness of the therapy. With adequate doses of succinylcholine complete muscle relaxation could be obtained such that there was no visible muscular activity during the "convulsion." This eliminated all strain on the cardiovascular system from that aspect. Recovery from the effect of succinylcholine was very rapid, unlike that from the longer-acting relaxants.

The Development of Cross Resistance to Antibiotics

Staphylococcus aureus, *Streptococcus fecalis*, *Escherichia coli*, and *Aerobacter aerogenes*, six strains of each, were grown in the presence of increasing concentrations of aureomycin, terramycin, and chloramphenicol. Then these organisms were tested for their sensitivity to each of these antibiotics as well as to penicillin and streptomycin, and compared with their sensitivity prior to exposure.

Fusillo, Romansky, and Kuhns stated in *Antibiotics & Chemotherapy* [*3*:35 (1953)] that the results of their study showed that given strains of bacteria, upon exposure to aureomycin or terramycin, tended to develop resistance simultaneously to both of these antibiotics. Cross resistance between aureomycin or terramycin and chloramphenicol developed most frequently with *A. aerogenes*, less frequently

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antibiotics . . .

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with *E. coli*, and rarely with the gram-positive organisms.

The exposure of the gram-positive bacteria to aureomycin, terramycin, or chloramphenicol failed to cause any significant change in their sensitivity to penicillin. Likewise, these same antibiotics failed to cause any marked change in the sensitivity of *S. fecalis*, *E. coli*, or *A. aerogenes* to streptomycin.

Studies on the Effect of Magnamycin

High *in vitro* activity for magnamycin against several strains of gram-positive bacteria, particularly those which had become resistant to one or more of the common antibiotics, was previously reported. The authors, English, Mullady and Fitts, reported in *Antibiotics & Chemotherapy* [3:94 (1953)] that studies in white mice showed that the new antibiotic is also effective *in vitro*. Intracutaneous and intraperitoneal injections of the antibiotic in dosages ranging from 5 to 100 mg. per Kg., depending upon the organism, were employed in the study. It was found that magnamycin was effective in protecting the mice against experimental infections produced by *Streptococcus pyogenes*, *Diplococcus pneumoniae*, and *Micrococcus pyogenes var. aureus*. Two strains of the latter organism were highly resistant to the commercially available antibiotics.

Absorption of Erythromycin

Josselyn and Sylvester presented a report on the absorption of erythromycin

from the gastrointestinal tract of human volunteers. They found that erythromycin is readily absorbed from the gastrointestinal tract but that it is partially destroyed unless protected by a coating on tablets or by buffering. A special coating on tablets provided higher and more prolonged blood levels than plain tablets. The administration of aluminum hydroxide gel along with the antibiotic resulted in rather high blood levels, particularly when given after meals. Sodium citrate in place of aluminum hydroxide gel exerted no beneficial effect on the blood levels.

The author concluded in *Antibiotics & Chemotherapy* [*3*:63 (1953)] that doses of 200 to 500 mg. of erythromycin in the form of a suitably coated tablets will provide blood levels within the range of the *in vitro* sensitivity of most organisms susceptible to the antibiotic.

CVP and Capillary Fragility

CVP, a citrus flavonoid compound (whole natural vitamin P complex), has been reported of value in the treatment of certain hemorrhagic disorders and for protection of the skin against radiation injury. Investigations carried on with the cooperation of 18 physicians in different hospitals have shown CVP to have a beneficial effect on bleeding in: tuberculous hemoptysis, non-thrombocytopenic purpura, hemophilia, purpura of pernicious anemia, and certain types of symptomatic hemorrhagia (hypertension, postpartum, hematuria). Retinitis of early diabetes also responded favorably to CVP treatment. The usual dosage was 300-600 mg. daily orally (3-6 capsules). In these abnormal bleedings, increased capillary fragility was considered an important factor. CVP has been shown in laboratory studies to have a biological activity on the capillary system; it can prevent the increased capillary fragility produced by various experimental agents and the capillary injury caused by radiation.

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Capillaroscopy of the nail-bed was used to determine the protective effect of the bioflavonoid against radiation to capillary wall. In normal subjects a dose of 600 mg. (6 CVP capsules) given orally for 8-10 days prior to exposure gave almost complete protection against 150 r and 200 r in single dose; whereas, without CVP these exposures produced definite alteration in the capillaries. The protective effects of CVP against radiation injury are more pronounced when it is given for 5-10 days prior to exposure to x-ray and administered continuously during x-ray treatment.

288 cases of malignant disease in 22 hospitals were treated with CVP while receiving radiation therapy. CVP decreased to a considerable extent the degree of skin erythema, increased the tolerance to deep radiation therapy and seemed to increase the well-being of the patients. Since CVP has been found to exert a moderate inhibitory effect on tumor growth, yet does not decrease the radiosensitivity of the malignant tissue, it can be safely used in radiotherapy of malignant tissue.

Liver Extract and Vitamin B_{12} in Pernicious Anemia

Eight patients with pernicious anemia in relapse were treated with intramuscular injections of vitamin B_{12} while 20 similar patients with comparable red blood cell counts were given intramuscular injections of refined liver extract. A comparison of the red blood cell increases in the two groups showed uniformly greater increase among the patients treated with liver extract. Red blood cell counts of 4,500,000 per cmm. were reached by 16 of the 20 patients treated with liver extract but by only 3 of the 8 patients treated with vitamin B_{12}.

Murphy and Howard suggested, in *New England J. Med.* [247:838 (1952)], that, judging by the erythrocyte response to both agents, one U.S.P. antipernicious anemia unit of liver extract is perhaps equivalent to 1.3 micrograms of vitamin B_{12}. Previously a ratio had been suggested of 1:1.

Parenteral Administration of Terramycin in Pediatrics

Farley and Konzieczney studied the effectiveness of terramycin given by hypodermoclysis to infants and children. They found that effective blood levels and good results were obtained in a variety of common infectious diseases of childhood. Writing in *J. Pediat.* [*42*:177 (1953)], the authors recommended that a concentration of 1 mg. per cc. be employed. They found that hyaluronidase could be administered along with the antibiotic without incompatability and that various vehicles could be used, including, physiological saline solution, dilute dextrose solution, one-sixth molar sodium lactate solution, and Darrow's solution. The dose they recommended for average infections was 10 mg. per Kg. of body weight every 12 hours. For more serious infections the dose recommended was 20 to 25 mg. per Kg. every 8 to 12 hours.

Surital Sodium, Anesthetic Agent, Produces Smooth Induction, Rapid Recovery with Little After-Effect

As an intravenous anesthetic agent, Surital Sodium is more potent, recovery is quick and after-effects are absent, a Georgia physician has found.

Dr. Hayward S. Phillips, Atlanta, reported *Anesth. & Analg.* [*32*:56(1953)] clinical observations in 337 patients using Surital Sodium in combination anesthesia.

"It is my opinion from the use of Surital . . . that there are advantages in its use over that of other barbiturates used intravenously," Dr. Phillips said.

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MODERN THERAPEUTICS

—Continued from page 74a

The 337 private patients ranged in age from eight to 89, and the study covered more than 28 different types of operations. One-third of the patients were men and two-thirds, women.

"No deaths were considered directly or indirectly due to the use of Sodium Surital," the physician stated.

The 2.5 percent solution was prepared by dissolving one gram of Sodium Surital in 40 cc. of triple distilled water and injecting it intravenously by the intermittent or fractional methods. A few cases were given the anesthetic by the drip method, using a 0.2 percent solution in five percent dextrose and distilled water.

Sodium Surital solution was used as the total anesthetic agent in 61 cases, and in combination with cyclopropane in 133 cases: with nitrous oxide in 72; with spinal in 55; with local novocain in 15; and with ether in one. Sixty-one of the cases also involved oral or nasotracheal intubation.

Initial injection of the solution was usually three to four cc. with a pause of 30 to 40 seconds when an additional three cc. was given.

"The induction is usually rapid and smooth as if manifested by the patient closing his eyes and going to sleep without excitement," Dr. Phillips commented.

He said another two or three cc. may be necessary before the patient is completely unconscious, but rarely is it necessary to use more than 250 to 300 mg. for the induction. Cyclopropane or nitrous oxide and oxygen is introduced and, after about two to three minutes, the patient is ready for operation.

Low first to second plane anesthesia is maintained, the physician reported, by adding two to three cc. of Surital at intervals of ten to 20 minutes.

Dr. Phillips observed that with Surital Sodium the "induction is smooth and pleasant, and in addition the dosage of Surital is kept low so that the undesirable circulatory or respiratory depression is not present.

"The use of Surital with cyclopropane helps to prevent cardiac arrhythmia by keeping the cyclopropane blood saturation below the level which will affect an over sensitive heart."

He found that with this solution the level of anesthesia is more easily and quickly varied, if desired, and the emergence is usually quiet, pleasant, and rarely is nausea or vomiting present.

"It is also noted that patients who receive Surital awaken more quickly; mentally, they are quite clear and do not have too much of the usual hangover of the other barbiturates used in this manner."

Withdrawal Symptoms Upon Discontinuation of Isoniazid and Iproniazid

A group of 65 patients who had received isoniazid or iproniazid for 16 to 44 weeks were observed during the withdrawal period. Following withdrawal 39 of 56 patients who had received iproniazid showed reactions and 2 of 9 patients who had received isoniazid also showed reactions, but of much less severity. The untoward symptoms included headache, insomnia, vertigo, nightmares, nervousness, depression, irritability, and increased hyperreflexia. Selikoff, Robitzek, and Ornstein, writing in *Am. Rev. Tuberculosis* [67:212(1953)], stated that the patient had received a daily dose of 4 mg. per Kg. of iproniazid of body weight in 3 divided doses and 4 to 10 mg. of isoniazid per Kg.

Treatment of Acute Bacillary Dysentery with Antibiotics

Aureomycin, chloramphenicol, terramycin, and Polymixin B were used in the treatment of 1,408 hospitalized war prisoners with severe bacillary dysentery of proven shigella origin. The Flexner group of organisms predominated, the Shiga bacillus

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occurred in less than 1 in 200 cases, and *Shigella sonne* occurred in less than 3%.

Garfinkel *et al.* reported in *J.A.M.A.* [*151*:1157(1953)] that aureomycin, chloramphenicol, and terramycin were all very effective in the treatment of this disease. The effect was compared with that obtained with supportive therapy and sulfadiazine. Polymyxin B was not as effective as the other antibiotics. Four regimen were employed for the administration of the antibiotics, namely, 10 Gm. in 4 days, 4 Gm. in 7 days, 4 Gm. in 24 hours, or 2 Gm. in a single dose. The authors concluded that the regimen of 4 Gm. in 3 doses within 24 hours was as effective as the other regimen and slightly better than the smaller dose.

Treatment of Ulcerative Colitis

The three chief therapeutic approaches to ulcerative colitis concern chemotherapy, steroid hormones, and colectomy, according to Kirsner and Palmer in *M. Clin. N. American* [*37*:247(1953)]. Antibiotics and sulfonamides will decrease the total bacterial counts in the intestine but the clinical course is unaffected. Apparently aureomycin, terramycin and chloramphenicol directly irritate the bowel, causing distress, diarrhea, nausea and vomiting. Therefore, many patients cannot tolerate antibiotics. Sulfaguanidine has produced promising results.

In steroid therapy either ACTH or cortisone may produce dramatic improvement, but neither provides a cure. ACTH is usually more effective than cortisone. Some patients show decreasing response to therapy while others develop systemic or dermal sensitivity. Colectomy should be performed when there exists cancer of the bowel, resistance to medical therapy, or severe conditions such as toxemia or massive hemorrhage.

NEWS AND NOTES

Children's Shoes Must Fit Properly for Health's Sake

You can put your best foot forward only when your feet have been properly shod.

The proper fitting of shoes should begin with a child's first pair, as correctly fitting shoes are essential both for health and comfort, according to Dr. Louis Starr, Brooklyn. Dr. Starr is associated with the department of orthopedic surgery, New York University College of Medicine, N.Y.

"The normal foot requires no support from shoes," Dr. Starr wrote in an article discussing children's footwear in a recent *A.M.A. Journal*. "The shoe, therefore, should be pliable and interfere as little as possible with the action of the foot.

"A weak foot is a foot that on weight-bearing changes its shape and contour more than normal. The accepted orthopedic treatment is to support such a foot throughout the growth period of childhood.

"A proper shoe fit is essential for foot health. Poorly fitting shoes are uncomfortable. They wear out more rapidly. They may result in deformities of the foot."

An infant should start to wear shoes as soon as he maneuvers about to any considerable extent outside the playpen, Dr. Starr stated. However, if an infant has weak feet, he should wear adequate shoes as soon as he is able to draw himself up into a standing position.

High shoes are preferable for infants as they are easier to keep on, he added. Older children should be fitted with low shoes, as they are cooler and dryer and

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afford adequate protection.

"Shoes should not be bought from a mail-order house or off the counter. A good fit is difficult to obtain in this way. A shoe store should not have a fluoroscope. No regulations can make shoe fluoroscopy safe. A competent shoe salesman can achieve a good fit without resorting to shoe fluoroscopy."

Routine X-Rays Aid in Discovery of Lung Cysts

With the growing popularity of mass survey chest x-rays, an increasing number of pulmonary cysts are being discovered early, permitting surgical removal before they cause serious trouble, according to Drs. Joseph W. Gilbert, Richard T. Myers and H. H. Bradshaw, Winston-Salem, N. C. All are associated with the department of surgery, Bowman Gray School of Medicine, Wake Forest College.

"Because of the likelihood of serious complications and sequelae, recognition of pulmonary cystic disease and an appreciation of the place of surgery in its management are of considerable importance," they wrote in a recent *Journal of the American Medical Association*.

There is small surgical risk attendant to the removal of such cysts; surgical removal has great preventive medical aspects and offers the likelihood of cure or improvement.

Twenty-one cases of pulmonary cysts treated surgically by the doctors between 1943 and 1950 were described in the article. These included two infants—one 13-days-old and the other 14-days-old.

"The results of surgery in the treatment of pulmonary cysts are gratifying," the doctors pointed out. "In this experience, there were no mortalities, and the postoperative complications were negligible. This success is attributable to the fact that cyst extirpation is restorative surgery.

"Ventilation of lung tissue is increased by elimination of compression, infection and sputum; pulmonary function almost immediately improves. The place of surgery in the management of the incidentally discovered chest lesion is emphasized in the treatment of pulmonary and mediastinal cysts.

Separation of Siamese Twins Made Possible by Medical Advances

With the separation of the Brodie Siamese twins, American medicine scored another dramatic first—one that could not have been accomplished ten years ago.

Correlated advances in medical science as a whole were greatly responsible for the successful parting of the 15-month-old Moline, Ill., boys connected at the top of their heads, C. Lincoln Williston, Chicago, wrote in a recent *Today's Health*, published by the A.M.A.

Although Roger Lee died a month after the operation, only twice before in medical history has separation of such a type of Siamese twins been attempted. In both cases, the twin died.

Highlights of the operation which separated the children were: (1) it required 12 hours and 40 minutes—perhaps the longest in medical history for children so young; (2) Roger Lee received approximately three and one-half complete changes of blood during surgery; Rodney Dee had two and one-half complete changes; (3) Rogert Lee went into shock several times, and, at the moment of separation, stopped breathing; he was revived by artificial respiration; (4) it was found during the operation that the children's dura mater—a membrane covering the brain—was fused together, and that they shared one superior sagittal sinus—the blood vessel which serves as the main route of blood flow from the brain back to the heart.

Rodney Dee was given the sagittal sinus as the majority of it had been endowed to him by nature, and he also was given all of the dura mater. Because of the lack of the sagittal sinus, Roger Lee went into a deep coma following the operation, and died a month later.

"Whatever the outcome of this medical effort—which may not be known for several years—the separation itself ranks as a great tribute to medical science.

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Preventive Medicine Should Encompass Chronic Chest Disease

An important aspect of preventive medicine should be the control of chronic bronchopulmonary disease. It is common, communicable, preventable, and causes enormous economic losses, in the opinion of Dr. Walter Finke, Rochester, N. Y., associated with the chest clinic, Genesee Hospital.

In the United States, at least two to three million persons suffer from chronic bronchopulmonary disease, he wrote in a recent *Journal of the American Medical Association.* Such afflictions are chronic diseases of the lungs and windpipe, such as bronchitis, asthma and persistent forms of pneumonia.

"Since it [chronic bronchopulmonary disease] often leads to serious complications, such as bronchiectasis, and accounts for enormous economic losses, it should be an object of preventive medicine."

'A dynamic, prophylactic approach should utilize present knowledge that the disease most frequently originates from inconspicuous respiratory ailments during childhood."

Dr. Finke pointed out that chronic bronchopulmonary disease rivals tuberculosis as a cause for lost manpower, and in terms of production time lost, it exceeds the common cold in importance.

Respiratory infection of recurrent character becomes evident in childhood, he stated, and many sickly children do not outgrow their susceptibility to these sicknesses. It is generally believed, he added, that children acquire most of their respiratory ailments from extrafamilial sources, especially in school.

According to Dr. Finke, children also get such diseases from intimate household contacts, the pattern presenting itself in preschool periods.

New Influenza Vaccine Offers Promise of Better Immunization

A new type of influenza vaccine that will at least double the period of immunity and may make it possible to offer protection against more strains of influenza virus was reported in a recent *Journal of the American Medical Association.*

Preliminary studies have shown that the vaccine, emulsified in light mineral oil, gives immunity for at least two years, compared to the one year immunity afforded by presently used vaccines which are prepared in a water base, according to Dr. Jonas E. Salk, Pittsburgh. Dr. Salk is associated with the virus research laboratory, department of bacteriology, University of Pittsburgh School of Medicine.

"It appears that emulsification with light mineral oil may provide, in part at least, the means for resolving the problems of prolonging vaccine effectiveness and increasing the immunologic coverage to include a sufficient number of strains to cover the entire spectrum for each virus type."

He pointed out that immunization resulting from influenza vaccine prepared in a water base reaches its peak sometime before the sixth week after inoculation. The decline begins thereafter and continues up to one year, when immunity returns almost to prevaccination level. In emulsified light mineral oil vaccine, however, the maximum effect of immunity is evident four months after inoculation. It slightly declines in the course of the subsequent interval up to one year, with little change appearing the second year.

In the emulsified vaccine, much smaller quantities of virus are required than had been employed previously in the aqueous vaccine, according to Dr. Salk.

No toxic effecs, allergies or reactions were seen following use of the new vaccine. At present the new vaccine is not available for general application. Further studies with the vaccine are necessary.

—Continued on page 86a

"...a marked advance in wet dressing therapy..."[1]

1. Peck, S. M.; Traub, E. F., and Spoor, H. J.: Aqueous Solutions of Sodium Propionate with Chlorophyll as a Therapeutic Agent: A.M.A. Arch. Dermat. & Syph. 67:263, 1953.

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Reflex dystrophy[3]
Menopausal arthralgia[3]
Lumbosacral strain[3]
Malum coxae senilis[5]
Still's disease[5]

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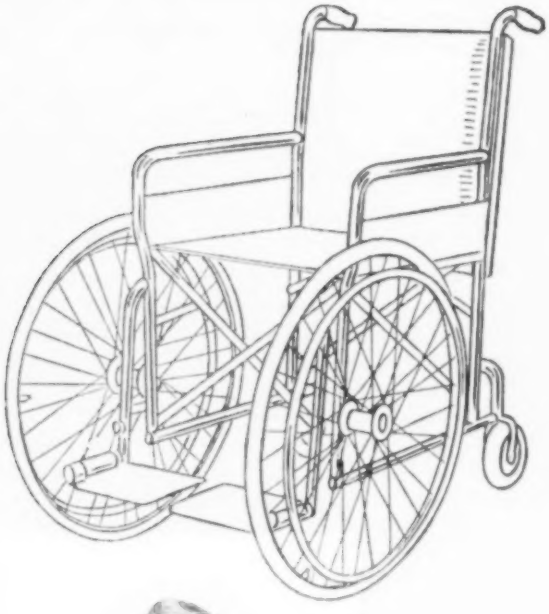

BUTAZOLIDIN has been reported to produce favorable results in all of the listed indications.

Treatment of the more transient conditions may be discontinued a few days after symptoms have been completely relieved. In the more chronic disorders BUTAZOLIDIN is usually continued indefinitely at the minimal effective dosage level required to avoid relapse. Frequently, the initial dosage of 600-800 mg. daily may be reduced to 400 mg. daily, or even less, without loss of effect.

In order to secure optimal results with minimal risk of side reactions physicians are urged to send for the brochure, "Essential Clinical Data on BUTAZOLIDIN," and other informative literature.

BUTAZOLIDIN® (brand of phenylbutazone) is available as coated tablets of 200 mg. and 100 mg.

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Medical Illustrations of the Nervous System

The General Practitioner and the non-neurologic specialist because of the demands of a busy practice have been impatient with the labyrinthine complications of neurology. As a consequence they have left the full command of this body of information to specialists in neurology and neurosurgery. To the end that the intricacies of the nervous system may be more easily comprehended, the most important and clinically useful facts have been "compressed" in "The Ciba Collection of Medical Illustrations, Volume I, Nervous System" by Frank H. Netter, M.D. This volume is so arranged that the physician can readily refer to the plates and their accompanying text when confronted by a neurological problem. The index is designed to further this aim and to anticipate the needs and reference habits of any reader.

The backbone of this collection is, of course, generally accepted information. While minute details and controversial theories have been avoided, this was not done at the expense of accuracy or completeness. Clinical significance has been the guiding principle. In many instances certain anatomic structures are either deliberately omitted or deemphasized in order to stress points that have broader clinical application. A section on the anatomy of the spine is included instead of being reserved for another volume covering bones and ligaments in general, because an understanding of spinal anatomy is fundamental to a proper appreciation of spinal cord injuries, the compression effects of spinal tumors, the significance of intervertebral herniations, and numerous other clinical conditions.

This volume contains 104 full color reproductions of paintings of the nervous system with descriptive text divided into five sections; Anatomy of the Spine, The Central Nervous System, Functional Neuroanatomy, The Autonomic System and Pathology of the Brain and Spinal Cord. Copies of Nervous System may be obtained by writing to the Publication Department, Ciba Pharmaceutical Products, Inc., Summit, New Jersey. Because this is a non-profit publication the cost price of $6.00 should be sent with the order.

Dr. Hans Selye Forsees New Era in Medicine

A new era in medicine, in which drugs will often be administered either to produce inflammation or to reduce it, depending on the nature of various diseases, was foreseen by Dr. Hans Selye of Montreal in an address before the International Academy of Proctology at their Fifth Annual Convention, in New York.

One outcome could be that the same drug might be used to counteract the "non-specific" manifestations of many diseases.

Making his first report on animal studies in which inflammation was used to produce "topical resistance," Dr. Selye, director of the Institute of Experimental Medicine and Surgery, found that inflammation was a barrier against digestion of connective tissue by gastric juice, even outside the stomach.

This inflammatory protection was gradually overcome when stress, through restraint and fasting, was applied. Without inflammation, however, gastric juice quickly digested the tissue.

The studies were with rats, using a "granuloma pouch" technique in which an air-sac was created behind the shoulder blades. Gastric juice was tested here to rule out possible effects of the gastric mucosa.

Discussing "the well-known resistance of gastric-ulcer areas to peptic digestion," Dr. Selye concluded that "the inflamma-

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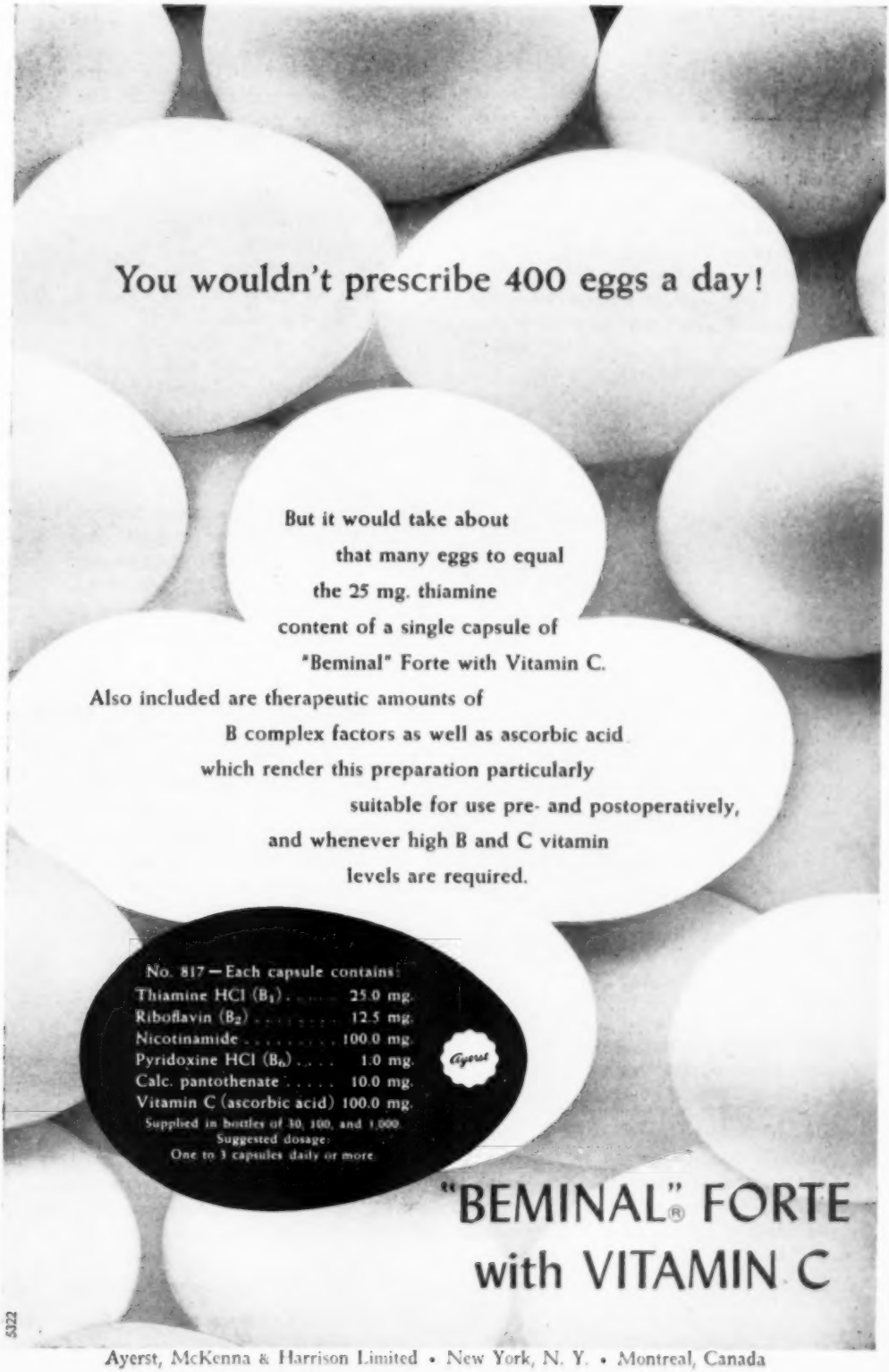

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tion of the exposed area is, in itself, sufficient to induce adequate local protection." The breakdown of this protection under intense systemic stress is in agreement with findings that such stress can predispose gastric ulcers to perforation.

Dr. Selye called inflammation "the fundamental reaction-pattern to topical stressors," as the "general-adaptation-syndrome" is to systemic stressors.

While inflammation acts as a defense mechanism in certain diseases, it may become an important part of the disease itself, as in rheumatoid arthritis, according to Dr. Selye.

Thus cortisone, which inhibits inflammation, causes a remission of symptoms in rheumatoid arthritis but in overdosage may produce gastric ulcers.

Dr. Selye proposed a distinction between "prophlogistic corticoids," such as desoxycorticosterone, which promote inflammation, and "antiphlogistic corticoids" like cortisone, that inhibit it.

The concept that "many diseases have no single cause but are largely due to non-specific stress," he said, is in a sense a "mirror image" of the older concept of specificity.

The application of pharmacology, according to Dr. Selye, is that "we must learn to imitate—and if necessary to correct and complement—the body's own autopharmacologic efforts to combat the stress factor in disease."

214,667 Physicians in U.S. Set All-Time Record

There were more physicians in the United States at the close of 1952—214,667—than at any other time in its history, it was disclosed in the 51st annual medical licensure report of the Council on Medical Education and Hospitals of the American Medical Association.

During 1952, 6,816 persons were licensed to practice medicine in this country for the first time. During the same period, 3,829 deaths of physicians were reported to the A.M.A., giving a net increase of 2,987 in the physician population of the nation. In 1951, an increase of 2,640 was reported.

In the 18-year-period from 1935 to 1952, there have been 110,700 additions to the medical profession. This is the result of the increase in the production of physicians under accelerated programs in medical schools, expanded facilites and the licensure of foreign-trained physicians.

Of the total number of physicians in the United States at the close of 1952, 151,363 were engaged in private practice, 6,677 were in full-time research and teaching 28,366 were interns, residents, and physicians engaged in hospital administration, 8,166 were retired or not in practice, and 20,095 were in the government services.

Medical licensure in this country is a "state right" and is entirely under the jurisdiction of the governments of the individual states, it was emphasized by Dr. Donald G. Anderson, Chicago, secretary of the council. The report, which appeared in a recent *A.M.A. Journal*, was prepared by Dr. Anderson and Mrs. Anne Tipner, Chicago, a member of the council's staff.

"It is the function of the individual states to determine who shall practice within their borders and to maintain high standards of medical practice in accordance with their own rules and regulations," Dr. Anderson stated. "The power to license physicians is exercised through the medical licensing boards of each state."

A total of 13,228 licenses to practice medicine were issued in the continental United States, its possessions and its territories during 1952; this included

—Concluded on page 91a

WHENEVER DIARRHEA

is Encountered

Arobon is widely applicable whenever diarrhea or loose stools must be overcome. Its action is dependable, regardless of the underlying cause of the diarrhea.

Prepared from specially processed carob flour, Arobon provides a high natural content of pectin, lignin and hemicellulose. Thus it exerts a combined adsorptive, demulcent, water-binding action which is promptly effective in all age groups—adults, children, infants. In most diarrheas, Arobon suffices as the sole medication; in the dysenteries and the severe infectious diarrheas, it is a valuable adjuvant.

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The diarrheas so often encountered during warm weather respond promptly and especially well to Arobon with its demulcent and adsorptive action.

Arobon is easily and quickly prepared for use with milk or water. Although it contains no chocolate, when mixed with milk it makes a tasty mixture having a chocolate-like flavor.

Physicians are invited to write for clinical test samples of Arobon.

Arobon is available in 5 ounce jars through all pharmacies.

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(N-acetyl-p-aminophenol, *Ames*, 0.3 Gm.)

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—Concluded from page 88a

6,885 issued to persons for the first time. The remainder were issued to physicians who moved their practice from one state to another. These licenses were issued upon examination or certification of credentials.

The greatest number of licenses, 1,581, were issued in California. New York licensed 1,292 physicians, and more than 500 licenses were issued in Florida, Illinois, Ohio, Pennsylvania, and Texas. Delaware, Maine, Montana, Nevada, North Dakota, South Dakota, Vermont and Wyoming each issued less than 50.

During the last three years, 1,531 foreign-trained physicians were licensed to practice medicine in the United States. This is evidence of the efforts of those administering medical licensure to give every consideration to the qualified foreign-trained physician, and, at the same time, uphold the high standards of medical licensure in this country.

Tell Need of Additional Nursing and Technical Hospital Personnel

Although the number of well-trained nursing and technical personnel for hospital service and other community needs is increasing annually, there is still an acute shortage, it was stressed in the 32nd annual report of the Council on Medical Education and Hospitals of the A.M.A. by Dr. F. Arestad and Mary McGovern.

Additional facilities, training programs and personnel will be required to meet existing shortages as well as anticipated future demands, it was added.

One of the greatest needs is in the field of nursing. In 1952 there were 1,079 accredited schools of professional nursing, 27 less than the number reported in 1951; nearly all such schools were sponsored by general hospitals. These schools admitted 42,103 new students during the year—an increase over 1951, but still not sufficient to meet demands.

The role of the practical nurse in hospital service is steadily increasing as greater emphasis is being placed on the utilization of practical nursing personnel and the standardization of training programs in the field.

Of the 6,665 registered hospitals in the nation, 5,670 reported laboratory departments, 5,900 x-ray departments, and 2,838 outpatient departments. There is a continuing shortage of technical personnel to operate these and other departments although the number of approved technical schools and enrollments has increased.

It was disclosed in the report that there are 23,822 technical laboratory workers, including 8,612 registered medical technologists, now employed in the nation's hospitals; 12,412 x-ray technicians; 4,707 physical therapists; 3,953 occupational therapists; 6,167 medical record librarians; 10,546 other medical record personnel; 8,867 dietitians; 778 clinical photographers, and 4,360 pharmacists.

In the last 20 years, schools of medical technology have increased more than fivefold—from 96 to 538—with 42 new schools being added during 1952, alone. A total of 2,261 students are now training in the 470 approved schools, and 2,063 were graduated during 1952. A like increase was noted in the schools for x-ray technicians. In 1945, there were 112 such approved schools; today, there are 326, with an enrollment of 1,773. There were 1,156 graduates reported in 1952, as compared with 1,080 in 1951.

Twenty years ago there were only 10 occupational therapy schools that met A.M.A. standards. In 1952, however, there were 27, which graduated 441 students.

During the last 10 years, the number of schools for medical record librarians has more than doubled. In 1943 there were only 10; in 1952 there were 23, 19 of which graduated 92 students during the year.

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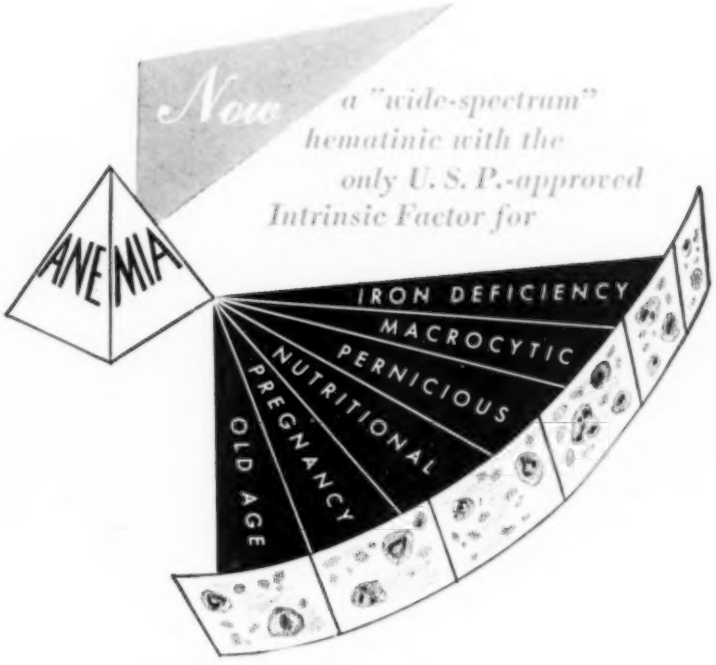

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